

# THE AUTOMOBILE

## Quaker City's Strenuous Endurance Winter Run

By G. M. Schell

PHILADELPHIA, Jan. 6.—At a meeting Sunday night of the contest committee of the Quaker City Motor Club, held at the Hotel Majestic, the White steamer was declared the winner of the MacDonald and Campbell Cup, emblematic of Class A honors in the club's New Year's run. The three-cornered tie of the White, Studebaker and Peerless was run off Saturday over the 172-mile course, and all came through without a single road penalization. After checking in the machines were taken to the garage of the Keystone Motor Car Company, where, with bodies removed, they were carefully gone over by the technical committee—Messrs. Swain and Sellers. It being impossible to gather the contest committee Saturday night to receive the technical report, Chairman E. C. Johnson issued a call for a meeting last night, when, although no figures were given out, the White was declared winner. It was then unofficially stated that the Peerless would be awarded second place.

It speaks well for the American automobile industry, of which the three clean-score cars are representative, and for the American manhood, of which the thirteen occupants of the cars in Saturday's run-over are likewise representative, that they should have withstood the rigors of road and weather as they did. True, the human end of the combination was so nearly "all in" when the finish was reached at City Hall, shortly after 4 o'clock Saturday afternoon, that some of them had to be helped from their seats; but in the face of such an abnormal elemental outburst human endurance was stretched almost to the breaking point. A piercing



HAL SHERIDAN AND HIS WINNING STEAMER.

northwester, penetrating even the heaviest furs and wraps, prevailed throughout, while a heavy snowstorm, followed by sleet and rain, persisted in falling.

The cars lined up for the start at the Hotel Majestic according to their numbers—No. 9, Peerless, driven by Bert Maucher, W. C. Middleton, observer (Studebaker); E. C. Johnson, chairman contest committee, S. Stankowitch, Jr., and Charles Labelle, passengers; No. 10, Studebaker, driven by Frank Yerger, Frank Stockbridge, observer (White), W. Wayne Davis, committeeman, and A.

J. King, owner, passengers; No. 17, White, driven by H. K. Sheridan, J. Macauley, observer (Peerless), E. H. Lewis, committeeman, and George H. Smith, White branch manager, passengers. The Peerless was sent away at 7:40, the Studebaker and White following at one-minute intervals.

Apart from the constant fight against the elements, there was little record on the trip, all the bad stretches—even the heart-breakers between Doylestown and Ottsville and between Allen-

town and Kutztown—being reached with something to spare. The Peerless had an awful close shave of it at Allentown, however. A new tire had to be fitted at Raubsville, and while pulling out to make up lost time a team was discovered, lines up, completely across the road, with the horses calmly drinking from a trough, while the driver was inside a hotel doing likewise from a glass. Maucher brought his car to a stop in time, however, but nearly spilled his passengers in the operation. The driver heard the yells and, coming out on the hotel porch, nonchalantly advised them to go to



FINISH IN FRONT OF QUAKER CITY MOTOR CLUB'S QUARTERS.



O. W. HOFFMAN'S STEARNS.



ROBERT SHIRK'S STODDARD-DAYTON.



TOM BERGER'S OLDSMOBILE.

some warm resort and let the horses finish their drink. It cost another delay of two valuable minutes before they could proceed, and it was only by the taking of the riskiest kind of chances by Maucher that the Peerless reached the Easton control just nine seconds short of a down-and-out penalty.

#### Fast and Furious Weather Made the Ride Galling.

So bad had the weather become when Allentown was reached that a dozen ladies' veils were bought to protect the faces of the travelers from the stinging sleet. In ten minutes the veils had become saturated with a plaster of snow and sleet and were thrown away, the tonneau passengers crouching behind the front-seaters and constantly wiping the drivers' goggles to give them a chance to see the road.

After reaching Kutztown, where the bad going ended, the heavy strain on the cars ceased, although the slippery roads necessitated careful driving. The endurance test of the passengers, however, became more strenuous, for with the increased speed of the cars came added force to the pellets of sleet. The rests in control, however, enabled all hands to hold out until City Hall was reached, but all were grateful that the finish came when it did, as the driving sleet cut like needles and was benumbing to the senses.

Like all affairs of the kind held in this section during the last three years, there promises to be an aftermath. Beginning with the protest of the White contingent, first against the reinstating of the Studebaker to the clean-score class on the ground that

a broken shock absorber is not an accessory, and later against the removal of the Peerless penalty for a free-play transmission on the ground that all Peerless transmissions are so assembled, there have been some rather hasty insinuations flung about, which go to prove the necessity for the adoption of a different method of appointing technical committees in future similar contests. As the A. A. A. is the court of final resort in the settlement of all disputes, say some of the cool-headed ones, why should not that body take this matter in hand at once and prevent all kinds of trouble by appointing a committee of, say, three experts to report on the condition of all cars after such contests, their expenses to be paid by the promoting organization. The suggestion, it is believed, would meet with hearty approval by all interested in the sport.

#### Detailed Story of the Main Event.

The second annual New Year's endurance run of the Quaker City Motor Club came to its scheduled conclusion at 3:15 o'clock Thursday afternoon, when the finish judges, at the City Hall, pulled down their flags. But it was long after 1 o'clock next morning when the contest and technical committees finished their labors at the Hotel Majestic and announced the triangular tie for Class A honors, involving the White, guided by "Hal" Sheridan; the Studebaker, driven by Frank Yerger; and the Peerless, with "Bert" Maucher up. Three other cars came to the finish minus road penalizations—Tom Berger's Oldsmobile, O. W. Hoffman's Stearns, and Robert Shirk's Stoddard-Dayton,



A PACKARD NON-CONTESTANT



OF COURSE THERE WAS A FORD.



AND ALSO A FRANKLIN.



but when President Swain and the other technical committeemen gave them a critical overlooking the unlucky trio fell down and were variously penalized. C. J. Trumbull's Packard won the Class B cup for roadsters, the Maxwell the Class C trophy, and Dan Webster was voted the "most popular driver" cup in Class D, with a Frayer-Miller.

In Class A the Studebaker and Peerless no-penalty cars should, in the opinion of some experts, have also suffered penalization, the former by reason of its broken shock absorber and the Peerless on account of too much play in the transmission. But the officials ruled that a shock absorber was not a part of the Studebaker's regular equipment, and accepted evidence to show that it was the Peerless policy to send out its cars from the factory with transmissions permitting of some play. In the latter case a 10-point penalty had been inflicted on the Peerless, and so announced, but the long and hard kick that followed had its effect, the penalty was lifted and the Peerless



HAL SHERIDAN AND HIS WHITE TRAVELER EN ROUTE PASSING ONE OF THE OFFICIAL CARS.

run with a rear wheel out of true, and declares he called attention to it before the start. Nevertheless, when the eagle-eyed technical committeemen saw the slight wobble they promptly plastered 5 demerits on the Oldsmobile. The Stearns penalty resulted from a cracked front spring and caused 9 points penalty. A car not sufficiently tuned up crushed the Stoddard-Dayton contingent's hopes of first place. Just from the factory, several nuts worked half a turn loose, and before the committeemen had finished their work with the spanner the car had accumulated 45 bad marks.

Hard luck stories came also from the Matheson camp, whose two cars made really excellent showings—Anderson's having but one point road penalty and Dietrich's but three—and both afterwards went through the technical committee gauntlet without the semblance of a demerit being chalked up against them.

A momentary stoppage of the engine due to dirty gasoline accounted for the Lozier's two road demerits. Frank Leflem's Garford, No. 26,

was one of the few who survived the first day's run with a clean score sheet. The car would probably have repeated on the second day but for a collision with a cart, which was not only responsible for 15 bad marks on the road, but for 50 points penalty for a bent axle, crooked mudguards and a few other trifling defects resulting therefrom.



PEERLESS TIE PERFORMER ROUNDING MONUMENT AT ALLENTOWN ON SECOND DAY.

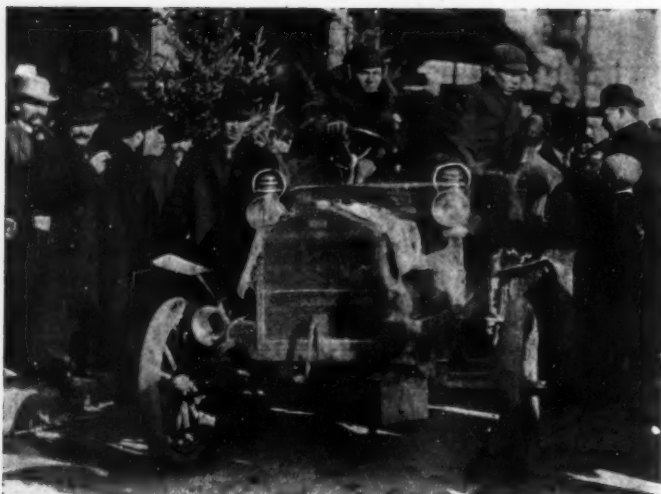
was let into the ranks of the elect. The contest committee further decided that the three clean-score cars should cover the route Saturday under the same conditions, in order to determine the winner of the MacDonald and Campbell cup.

When the announcement concerning the Studebaker and the Peerless reached the White contingent they immediately filed a protest and put in a claim for the cup on the ground that theirs was the only car in the run that had covered the course without road penalizations and had been found flawless at the finish. They argued that shock absorbers were auxiliary springs, and had been so declared when a similar question arose in the Glidden tour and the recent Chicago endurance run.

There were other whispers of dissatisfaction with the rulings of the technical committee, especially from the Motor Shop people, both of whose cars, the Stearns and the Oldsmobile, finished with clean scores on the road, only to be penalized. Berger started on the



STUDEBAKER TIE CANDIDATE FOLLOWING THE CONFETTI CAR ON THE SECOND DAY.



THE MAXWELL, WHICH PROVED A STURDY COMPETITOR.

J. W. Florida's Locomobile, despite its 109 road demerits, due to tire troubles, technically came through unscathed.

The battle for Class B honors resolved itself into a duel between Trumbull's Packard and the big Thomas, driven by E. T. Youse. The latter, unfortunately, suffered two punctures just before reaching the night control on the first day.

Another creditable performance in Class B—really one of the best, in fact—was that of A. A. Jones' Ford runabout, which went out of its class and came through with a total of but 20 points penalty, all on the road.

Despite a penalization of 51 points, the little Maxwell runabout won the Class C cup over four contestants.

#### Only One Accident on the Run.

The bad Doylestown-Ottsville stretch was responsible for the only accident to a contestant. Hugh Coyle, a mechanic in the Columbia car, was catapulted from his seat when the machine struck an unexpected "thank-you-marm." He hit the ground with his face and despite several bad cuts continued on to Allentown, where he received medical attention.

Some idea of the road conditions on that fatal second lap on the first day's run may be had from the fact that but a dozen of the 39 starters in Classes A and B came through it unscathed. The twenty-miles-an-hour maximum—for anything in excess of which the State will not stand, and upon which the contest committee based its schedule—was almost too much for even the big fellows. Deep frozen ruts and sharp-edged stones embedded in the hard mud as firmly as in cement were the determining factors, and there was little danger that the speed limit would be exceeded under such conditions.

Tire damages were so numerous along the Ottville-Doylestown stretch that it seemed almost as if every other car was either stalled for repairs or limping along, hoping to reach the Red Hill Hotel at Ottsville and make repairs after passing through the control.

Some portions of the first leg of the second day's journey was a replica of the Doylestown-Ottsville road, with the ruts, if anything, a trifle deeper. But there were smooth spots where time could be made up and stalled cars passed, and the 57 minutes allowed to cover the 18.2 miles meant very close sailing. Beyond Kutztown, all the way to Reading, the going was excellent. And from the Berks capital over the hard old Philadelphia pike it was child's play for all the cars.

The official schedule followed by the contestants is appended:

FIRST DAY.				
Control.	Miles.	Total Dis.	Time	Total Time.
To Doylestown .....	26.7	26.7	1:16:00	1:16:00
Ottsville .....	11.8	38.5	0:28:00	1:54:00
Easton .....	18.5	57.0	0:54:00	2:48:00
Allentown .....	21.9	78.9	1:06:00	3:54:00

#### SECOND DAY.

Control.	Miles.	Total Dis.	Time	Total Time.
To Kutztown .....	18.2	18.2	0:57:00	0:57:00
Reading .....	16.5	34.7	0:48:00	1:45:00
Pottstown .....	16.6	51.3	0:51:00	2:36:00
Norristown .....	19.4	70.7	0:57:00	3:33:00
Philadelphia .....	23.0	93.7	1:21:00	4:54:00

#### The Tables That Tell the Story.

In the following table are shown the penalties inflicted on the various cars on both days. So disgusted were some of the drivers that they failed to turn in their cards on time the first day. In their cases penalties are shown in second day's column:

#### CLASS A.—TOURING CARS; MACDONALD-CAMPBELL CUP.

		Penalties.			
No.	Car.	Driver.	1st D.	2d D.	Tech. Total.
17.	White .....	H. K. Sheridan .....	0	0	0
10.	Studebaker .....	Frank Yerger .....	0	0	0
9.	Peerless .....	Bert Maucher .....	0	0	0
14.	Matheson .....	Ross Anderson .....	1	0	1
7.	Lozier .....	H. Michener .....	2	0	2
19.	Matheson .....	J. M. Dietrich .....	3	0	3
2.	Oldsmobile .....	T. W. Berger .....	0	0	5
21.	Pullman .....	H. P. Schade .....	7	0	7
1.	Stearns .....	O. W. Hoffman .....	0	0	9
16.	Franklin .....	W. Crawford .....	11	0	11
3.	Locomobile .....	W. J. Fox .....	**	12	10
18.	Kissel Kar .....	Webb Jay .....	24	0	24
13.	Acme .....	M. Lienan .....	**	26	26
15.	Stevens-Duryea .....	J. A. Moran .....	23	3	26
15.	Peerless .....	P. B. Huyette .....	10	21	31
27.	Royal-Tourist .....	H. B. Hills, Jr. ....	8	30	38
22.	Frayer-Miller .....	H. Knepper .....	**	18	25
24.	Corbin .....	W. Cathcart .....	39	3	42
12.	Stoddard-Dayton .....	Robert Shirk .....	0	0	45
11.	Studebaker .....	A. J. King .....	4	60	64
26.	Garford .....	Frank Laflin .....	0	15	50
20.	Autocar .....	P. Aschenfelder .....	18	89	107
4.	Locomobile .....	J. W. Florida .....	**	109	0
25.	American .....	C. A. Percival .....	68	53	121
28.	Crawford .....	J. Crawford .....	168	0	168
8.	Columbia .....	H. P. Fry .....	4	170	174
5.	Mitchell .....	H. W. Greenawalt .....	**	186	186
23.	American Mors .....	A. J. Martin .....	15	207	222

\*\* Did not turn in cards.

\* Not examined by technical committee.

#### CLASS B.—ROADSTER; FOR QUAKER CITY MOTOR CLUB CUP.

No.	Car.	Driver.	1st D.	2d D.	Tech. Total.
52.	Packard .....	C. J. Trumbull .....	0	0	0
54.	Thomas .....	E. T. Youse .....	5	10	15
56.	Ford .....	A. A. Jones .....	11	9	20
58.	Pullman .....	S. Laflin .....	7	27	34
59.	Pullman .....	R. Morton .....	3	34	37
61.	Stearns .....	S. H. Collom .....	0	0	40
53.	Autocar .....	R. W. Waynes .....	**	100	100
51.	Oldsmobile .....	P. E. Varney .....	75	37	112
57.	Ford .....	W. Henry .....	**	397	397
55.	Packard .....	Thos. Wilkinson .....	Dropped out.		
60.	Parkin .....	J. W. Parkin, Jr. ....	" "		
62.	Columbia .....	F. Gilkinson .....	" "		

\*\* Did not turn in cards.

\* Not examined by technical committee.

[In Class C the contestants were not required to check in at the intermediate controls. Only at the start and finish each day were they required to report, and no penalties except for lateness or previousness at each day's finish were inflicted.]

#### CLASS C.—SMALL RUNABOUTS.

No.	Car.	Driver.	Penalties.
79.	Maxwell .....	T. Hathaway .....	51
76.	Mitchell .....	W. M. Crane .....	62
77.	Pullman .....	Wm. Rockey .....	189
75.	Autocar .....	J. A. Hess .....	D. O.
78.	Pullman .....	J. Johnson .....	D. O.



THIS PRESS CAR OCCASIONALLY STOPPED ON THE ROAD.



## A. C. A. INAUGURATES DYNAMOMETER TESTS

EVER since the automobile got beyond the rudimentary stage there has been a demand for a testing instrument that would not alone reveal its power output accurately, but also its speed, grade-climbing ability, frictional loss in the various steps of the transmission of the power and other essentials of similar importance. To a certain extent, practically every man-



W. K. VANDERBILT, JR.'S 90-HORSEPOWER RACER BEING TESTED.

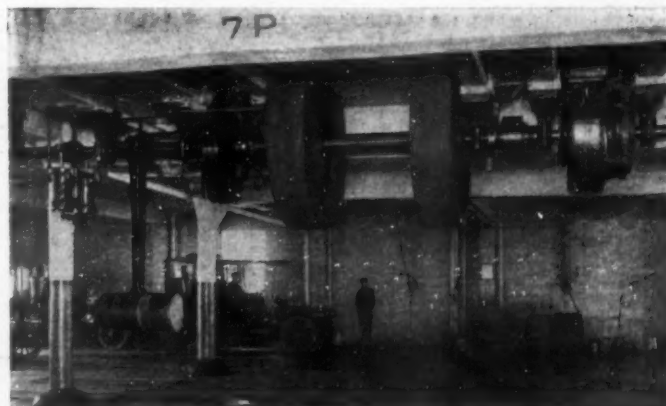
ufacturer of automobiles in the country has invested in apparatus to ascertain as accurately as possible one or more of these factors, but in general the knowledge sought by such testing has been confined to the power output of the motor alone. In some instances, investigations have been carried further than this, as in the case of the testing plant installed by Purdue University, but it has remained for the Automobile Club of America to make by far the most important advance in this direction. The members of this organization recognized the value of such data at an early day, and in 1904 Dr. Schuyler S. Wheeler, first vice-president of the club, and one of the best known electrical engineers in the country, was formally commissioned by the club to evolve a machine which would make it possible to accurately determine the before-mentioned factors in the ability of a car.

On Monday afternoon last there was exhibited on the top floor of the spacious new clubhouse in Fifty-fourth street the concrete result of the three years' study and labor that Dr. Wheeler has devoted to the matter. It is termed a dynamometer, but the ordinary acceptance of that term falls far short of conveying an adequate idea of the completeness of the apparatus which it includes. A dynamometer is merely a power-measuring instrument, the use of which supplies certain data from which the power output of the machine tested can be calculated. In this case it is the most complete assemblage of power-absorbing and measuring instruments that has ever been built for a similar purpose, and the outlay involved in its construction and installation—something like \$10,000—would naturally place such an equipment beyond the reach of the individual manufacturer. The matters of power measurement, integration and automatic recording of the final results have been carried much further than has ever before been attempted. It is no longer necessary to calculate the results from the data thus obtained, for the speed, tractive effort and horsepower may be read at a glance on the large chart.

The equipment consists, in the first place, of a pair of large drums carried on a shaft supported on ball bearings and placed beneath the floor in such a position that the upper part of the periphery of the drums just projects through the floor above, in

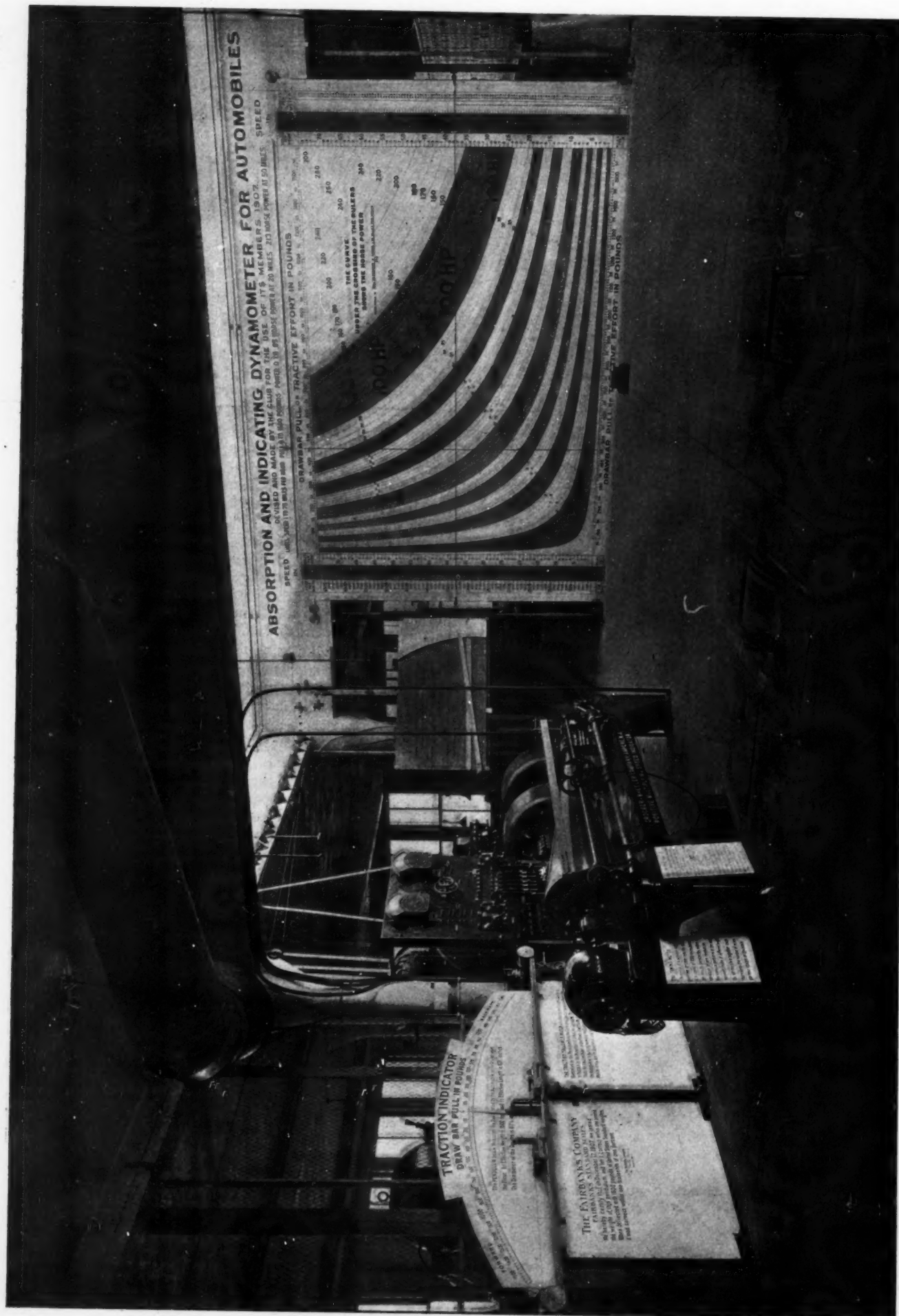
such a manner that the rear or front wheels of a car may be run upon them and held there. At the left-hand of this shaft, as shown in the illustration entitled "View Beneath the Floor," will be seen a huge pendulum. When the car is run upon the drums it is held in that position by block and tackle, as will be apparent from the first illustration showing W. K. Vanderbilt, Jr.'s, 90-horsepower Mercedes racing car on the testing stand. As the entire power of the car that is delivered at the rear wheels is transmitted directly to the drums, the pull on the latter causes the pendulum to swing from the vertical, a distance exactly proportional to the effort exerted by the car. A continuation of the pendulum is carried through to the floor above, where it forms an indicating pointer for the instrument, showing the tractive effort in pounds, this being very clearly shown in the third illustration depicting the relative positions of the pendulum and car while the latter is undergoing a test. At the extreme left-hand of the shaft supporting the drum and just beyond the pendulum in the view of the apparatus beneath the floor will be seen two small cylinders and pistons. These play the part of a dash-pot to prevent the pendulum from oscillating as the power delivered by the car varies, one keeping it steady while the pendulum swings in one direction, as represented by the forward speed of the car, and the other when running backward, this also explaining the duplication of the scale of the instrument showing the tractive effort.

Just to the right of the pendulum is the hydraulic brake which absorbs the power delivered by the car, while at the opposite end of the shaft is a large electric motor which is used to turn the drums in order that the car may be run from them, to determine the amount of friction and the consequent power loss in the various steps of the transmission, for verifying speedometer readings by comparing them with the record of the instrument and similar purposes, the front wheels of the car being placed on the drums in the latter instance. It also permits of testing the brakes and measuring the amount of power they absorb when fully applied with the car running at different speeds. This completes a description of the most important essentials of the equipment located beneath the testing floor and on which only the recording and controlling instruments are placed. In the order in which they appear at the left-hand of the testing room, as shown in the large illustration, these are the traction indica-



VIEW OF THE ESSENTIALS LOCATED BENEATH THE TESTING FLOOR.

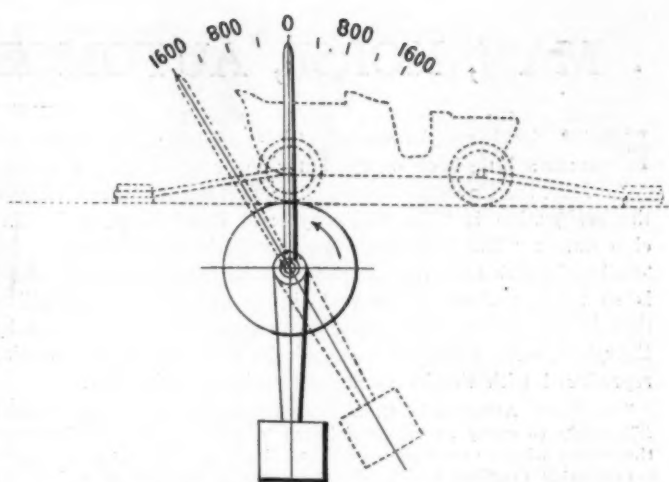
tor, the speed indicator, the switchboard, the motor generator, the grade indicator and the large chart at the rear, which sets forth the concrete results in such form that they may be read at a glance. The working of the traction indicator has already been explained, its reading being the direct result of the movement of the pendulum beneath the floor.





The speed indicator shown before it is an extremely delicate and accurate electrical instrument devised by Dr. Wheeler which would require a chapter of some length to do justice to it. In brief, it consists of a conical drum of considerable length, which is revolved continuously at a speed of 200 r.p.m., this speed being verified by a bell which rings automatically every thirty seconds, or 100 revolutions of the shaft, so that the method of measurement is based upon an instrument running at a constant speed like a clock, and which can be easily verified at any time, thus maintaining its accuracy. Against this conical drum there is pressed a light bronze wheel or roller, splined on a shaft which is directly driven by the automobile and adapted to be slid back and forth on this shaft by a small independent electric motor, according to the varying speed of the car until it comes to a rest at a point where the speeds of the cone and wheel agree, this representing the speed at which the car is then traveling.

In conducting the first public tests, which were held on Monday afternoon last before an interested gathering, the club's 30-horsepower car was placed on the drums. It showed a maximum speed of 15 miles an hour on the first speed, the drawbar pull being 510 pounds and the effort developed at the rims of the rear wheels 20 horsepower. This gives a ratio of pull to weight of 20 per cent., which is also the equivalent grade per cent. On second speed the car reached 25 miles an hour, with a drawbar pull of 340 pounds, and showed 22 horsepower at the wheels, while on the third, or direct drive, it ran at 36 miles an hour, with a pull of 270 pounds, and registered 25 horsepower at the drivers, thus giving a combined efficiency for the motor and transmission of 83.4 per cent., based on the car's rating of 30 horsepower, which is a most excellent showing indeed. On the coasting test the power absorbed reached 280 amperes at 100 volts, or the equivalent of slightly in excess of 38 horsepower, while on the speedometer test, the instrument used being a Hoffecker, both agreed at ten miles an hour, but the latter fell behind the reading of the instruments at the higher speeds, one mile at 20 miles an hour, 1 1-2 miles at 30 miles and 2 miles at 40 miles an hour.



HOW THE CAR'S PULL IS MADE TO ACT ON THE PENDULUM.

W. K. Vanderbilt's 90-horsepower Mercedes racing car was then placed under test, but it was found that its drawbar pull was so high on the first speed that the hydraulic brake did not get sufficient water pressure to absorb all the power the motor developed. At present the only pressure is from a roof tank, but a special pump is being installed to overcome this difficulty. However, it reached a pull of 880 pounds at this speed, at 21 miles an hour, showing 50 horsepower at the wheels. It was then tried on the direct drive and reached a speed of 74 miles an hour, at which the din in the room was terrific. An anomalous result of this test was that at this high speed the reading of power delivered at the driving wheels was only 30.

Among those present at the tests were Colgate Hoyt, president of the A. C. A.; David H. Morris, and Albert R. Shattuck, former presidents of the club, and Robert Lee Morrell, Dr. Schuyler S. Wheeler, Commodore Frederick G. Bourne, and Secretary Samuel S. Butler.

## ALPINE EXPERIMENTS BY NEW YORK-PARIS TOURISTS

PARIS, Jan. 1.—De Dion, Werner, and Benz splashed down the muddy suburban road, bound southward, with a wash of water from the front wheels which would have honored a torpedo boat destroyer. Collignon, who had charge of the procession, muttered that it was nothing, though a stream of liquid would persist in trickling down the spine, despite rubber shirts and storm helmets. But a man who had done Pekin-Paris had a reputation to uphold and could not be expected to grumble at a deluge. Benz and Werner looked as if they enjoyed it.

Two days later, after a non-stop run of 220 miles in non-stop rain, the New York-Paris trio had reached Avallon, and the next morning were at Briançon, in sixteen inches of snow, with a stinging cold, 14 degrees below zero. It is a soft, cottony snow that swallowed up the cars to their axles, not the kind we shall meet in Siberia, declares Lelouvier, for there it is hard, firm almost as macadam.

At night, when we were ready to smuggle under the immense eiderdown on the high-clearance wooden bedstead in a chilly upper room of the hotel, the round-the-world trio were bundled out into the open air to judge the effect of the non-freezing solution which Eugène Boujé had supplied.

Everybody was too excited to bother about breakfast, and at 5 o'clock Collignon and his mates were around the cars wrenching off the radiator caps to see if the water was frozen. It was all right—as clear and liquid as if just drawn from a mountain spring—and a jump was made for the cranking handle. But this was a more difficult matter. For quarter of an hour the De Dion was wound up, with no other response than a hollow

suc-suc-suc. Another quarter with the same result, then another, only to warm the men but leave the motor as cold as a statue. Then everybody wanted to know why the air inlet had not been fitted with a warmer for a car that had to knock about six thousand feet above the level of the sea. A little external heat judiciously applied produced a responsive roar of a hearty, healthy tone.

Then, for the first time in the history of the world, three automobiles climbed around the face of Mount Geneva in winter, traveling over tracks which had up to then been sacred to the sleigh. On the frozen grades, where the car seemed to stand on end, the anti-skid wheels flew around merrily, tearing the rubber surface to shreds. Smooth tires would certainly have been better, but, best of all, would be steel-spiked rims. After every imaginable stunt on frozen snow and impossible grades, a snow bath was ordered for the Benz, and in a second the big car had plunged into a glittering, downy mass that enveloped to the top of the frame. But the 40 horsepower under the bonnet continued to hum their monotonous tune and half an hour later it was proved that a wicker platform under the car would prevent it sinking in any depth of soft snow, and that half a dozen willing hands working in unison with a healthy motor would soon allow one to back out to terra firma.

Next week Werner will be down again to experiment with a kind of sleigh runner on the front wheels and to make further trials of the equipment as suggested by these experiments in the snow. One thing, however, is certain, we have nothing to fear from deep snow or the severest cold.

## MAN, HORSE, AUTOMOBILE, AND THE HIGHWAYS

FROM the Lima Automobile Club, of Lima, O., there has come a little book on the outer cover of which is the title: "The Man, the Horse, the Automobile, and the Highways"; inside the designation is "The Highways and Road Etiquette." The club states: "This little book is sympathetically dedicated to the 'old hoss' which finds the 'old pike' a hard road to travel." There is so much common sense and timely advice to automobilists that, in view of the title-page announcement of "Copyrighted by Everybody—No Rights Reserved," the text matter is herewith reproduced with thanks to the enterprising Ohio club:

The Lima Automobile Club herewith sends greetings of good fellowship to every owner of a horse in Allen County, and during these long winter evenings we wish to sit down with you at your own comfortable firesides and chat over some of the things which are of mutual interest to the Horse, the Automobile and the Walker. There is no politics about this, but it is full of good, practical religion, for it has to do with the prosperity, comfort, safety and happiness of everybody in the county, and to facilitate this friendly intercourse let us lay aside all prejudice and be frank and honest to each other, and see if we cannot establish good, neighborly relations between the users of the horse and the automobile, based on the golden principle that each has the same "free and equal rights" on the public highways which we all have had a hand in developing from the forest trail to the perfect pike.

The "perfect pike" is yet to come, but its coming is assured and cannot much longer be delayed. As long as we were compelled to go on foot or on horse-back, we did not complain of the trail. It was all we needed then. The "earliest settler" (our fathers and grandfathers) was too busy with his ax and grub-hoe in preparing a spot of ground on which to raise a few potatoes and a little corn for his wife and babies, to spend his time on the road; therefore it made little difference to him whether it was good or bad—or no road at all. But lo! the change! By and by he had a little surplus corn or wheat. He must sell it—must haul it away to some market where he could get a little cash. This necessitated WAGONS. Wagons necessitated ROADS! So by litters they were commenced. Trees were cut; soft spots were covered with poles and split logs. This gave the "corduroy," that served the purpose for the time being. But crops increased, better roads were found to be necessary in order to get the products of the farm to market. All night out on the road—stuck in the mud half of the time—would not do the thrifty farmers. They must have roads that were more passable. So they bridged and drained and dug and scraped year after year as they could spare the time from their farm work, improving the worst places as fast as possible with the facilities then at hand; but the desire and necessity for better roads grew faster than the roads could be built. But great things were accomplished, and in due course of time a good system of dirt roads was established throughout the country. Then came the desire for more of the comforts, and some of the pleasures of life! The "Old Studebaker Wagon," which had so well served the triple purpose of a pleasure (?) vehicle, a market wagon and a manure cart, would no longer do to carry the wife and daughters to church on Sunday. So the covered surrey made its appearance; and later, with increased prosperity the "boys" must have their "top buggy" and trotting-bred horse for their own private use after a week's hard work behind the plow.

Then the very plows themselves began to go on wheels—wheels for everything!

### The First Automobile.

One improvement after another followed in rapid succession. The mower came. Then the horse-drawn and horse-propelled threshing machine came along, asking for a more solid roadbed. Then, as if by magic, there appeared what we now know was a veritable and monstrous AUTOMOBILE threshing machine! It grew and grew, bigger and bigger each year, until it evolved into the enormous Traction Engine of to-day, which goes up and down over the face of the earth, pulling a "train of trallers" which fills the highways full of wheels from one fence to the other, and with noise and steam enough to scare the shoes off a horse less than forty years old. But, nevertheless, all this means real progress, and must not be stopped! It belongs to the spirit of the times! The wheels of progress should never be blocked, whether shod with rubber or rough-shod with ribs of steel. Progress must have a fair field and no favors.

Now to go back a little. The muddy, narrow, slippery dirt roads became obsolete in a day, as it were, and the great cry went up from every quarter: "Give us pikes—pikes! Give us more pikes!

Twenty years of incessant work on pikes has accomplished wonders. It is estimated that in Allen County alone there have already been built over 1,000 miles of pike roads. Think how many loads of stone that means—millions, perhaps. Then count the wear and tear on wagons, horses and men, and count the cost in dollars if you can. It is incalculable; but has all been done without a murmur. Of course, we still need more pikes, but the most important question which confronts us to-day is not so much that of building new pikes as the care and maintenance of those already in existence! During the busy days of new work, the old roads were scarcely given a thought, and many of them are now in sad need of attention. It is poor economy to allow a road to become entirely worn out, and have to practically rebuild it. The "stitch in time" doctrine is equally applicable to a turnpike or a pair of socks. For a short time a new road (as roads have been built in the past) will improve by use; but if not cared for a little each year it will soon begin to go backwards. The great aim in the past has been to see how many miles of new pike could be added each year—the old ones still serving to keep us out of the mud, the purpose for which they were originally built—so why complain?

### Rural Delivery Demands Better Roads.

But the large crops and high price of all farm products for the past few years, together with the general prosperity of the whole country, tend to increase the desire for the good things of this world, and affords more leisure to enjoy what we have. The increased number of people who ride over the country for either pleasure or business, to say nothing of the driving required by the great system of rural delivery which has so recently been inaugurated, have created a pressing demand from one end of the country to the other for a better grade of highways than have heretofore been dreamed of. Some roads will be built by the national government and others by the States, but the counties will always be the greatest promoters and builders of good roads.

Some States are already spending millions on their highways. Massachusetts appropriated \$25,000,000 a few years ago for that purpose and now has many miles of beautiful roads as smooth as asphalt pavement. All Europe abounds in fine roads; but they have been at it for centuries and have learned the art to perfection. It may take generations to put all our roads in as good condition as they are abroad, but we have made the beginning, and each year will doubtless show much progress as a whole. Even California is farther advanced in road building than we are in Ohio.

Here is what Geo. W. Lattimer, Chairman of the Joint Good Roads Committee of the Ohio State Board of Commerce and the Ohio State Grange, has to say on the subject of good roads in his recent report:

"The farther one studies and investigates this subject, the more he is convinced that it is one of the greatest problems of the United States. It touches the welfare and interest of more individuals than any other one question that is before the American public to-day. There is not a man, woman or child, in the country or city, that is not obliged to use the roads.

"Owing to the extremely bad roads of the present time, the farmer, who is the producer, is obliged to haul his product to the nearest market at such time during the year as the roads are passable. This occurs within two or three months in the fall, after harvest. This glut and over-supply makes the very lowest prices of the year for the producer, and the consumer in the cities and centers of population is obliged to pay the very highest prices during the months of the bad weather. Good roads will eliminate such conditions so that the farmer can haul his product to the market at any time during the year, whenever the demand calls for it, and the consumer can buy whenever the goods are wanted. Thus the producer will be able to secure a better price for his product and the consumer pays lower prices for his necessities.

"For years the United States and State governments have been appropriating money for waterways, steam railroads and other means of communication, all of which are good, but these questions become insignificant of what good roads will bring to the inhabitants of this country. Everybody should be interested in this question, and should urge Federal, State and county aid for improvements which at this time are all vital to the welfare of our country."

The subject is being agitated everywhere. It is in the very air we breathe, and, of course, good old Allen County is not going to be the least nor the last! We have abundance of good material. Granite, only, is superior to our native limestone for roadbeds or surface dressing. But we require a little more scientific skill in getting the best results from the material we have. It is a little crude in these latter days, to pile down a load of broken stone,



leaving them practically as they were dumped from the wagon, and expect to have even a passable road under a year or two—and all of it at the expense of worn-out tires and jaded horse flesh. And for all this wear and tear you have at best only three deep furrows to show for it—two where the wheels have run, and a sort of a "tow path" where the horses have been. We certainly have become too civilized to continue such a barbarous method of constructing a road. It was the best that could be done at one time; but now we have steam machinery especially adapted for the purpose, which leaves a new road in proper condition to receive a load of corn or a light top buggy.

Now, while the Lima Automobile Club is deeply interested in the general subject of new road construction, and is doing everything possible to promote such work throughout the State, we feel like repeating that the most vital question at this time is that of properly caring for the roads which are already built.

The most deadly enemy to good roads is **water**! Try and keep in mind this one fundamental thought, **that water does more damage to roads than all other agencies put together!** If it were not for water a road once good would always be good. Think about this every time you drive over a road speak about it to everybody you meet. Keep insisting that more attention be given to the subject of keeping water from standing in puddles along the road. It stands in pools only when there are holes for it to go into. No holes, no water! No water, no mud! One shovelful of gravel will fill a small hole, and if all the small holes are kept filled, there will never be any large holes!

#### The Care of Pikes and How "Chuck-holes" Are Made.

You can fill a thousand small holes for what it will cost to fill ten large holes. In one case you will have a perfect road all the time. In the other case you never had a good one. It is either holes or fresh stone the year round! But after a road has been properly built it is an easy matter to keep it so by watching for the small depressions which always appear in a new road, where little pools of water will accumulate after a rain. They look so very innocent and harmless at first; but the enemy—water—is there and at work! It softens the ground, and along comes a loaded team and forces out the water and some dirt with it—just a little—but the depression is made a little deeper and will hold a little more water than before; and the big wagon comes along again and "swishes" out more dirt with the water than it did the first time, and by continuing the process times enough a first-class "chuck-hole" is soon developed, which we begin to avoid by turning to one side. We keep edging away from it—one wagon after another—until we find ourselves in the ditch, where a second hole is created, and then there is no escape, and we must pull our load through some way. We mutter a little and then "lam-up" the horses, which must "grunt and take it," while they are nearly jerked off their feet by the pole and neck yoke.

This kind of thing is repeated many times over, in a greater or less degree during a day's drive over a pike three or four years old which has received no attention during that time. Wherever a drain-tile has been laid across a road you will always find a raise or a hole, even though it has been in for two or three years. Everybody sees it and takes the "jolt," but nobody fixes it, although it might be done in ten minutes, simply because it is nobody's business.

For the same reason when you approach a bridge you are compelled to pull your load up a six or eight-inch raise where the earth and plank come together, and then you must "jump off" at the other end of the bridge, and practically the same thing is also encountered at the numerous culvert crossings wherever you go. Because they have never been otherwise—always just exactly as you see them now—everybody has grown to think them all right, or at least they must be tolerated as something that cannot be changed, never realizing how fearfully abominable they really are!

#### Horse Sympathy.

The horse is rightfully an object of great sympathy among a large portion of the people who use him to perform different kinds of labor, but not a few are often unavoidably subjected to actual cruelty by their owners because of the un-beastly roads over which they must travel. But, fortunately, with an automobile there is no occasion for compassion. It can be sent regardless over the worst kind of roads without compunction, for a "thing of steel" knows no pain and can endure treatment without injury, which would ruin the animal made of **flesh and blood, like ourselves!**

Farmers are great spenders of money for every kind of "labor-saving" devices, but "Good Roads" is a better saver than any machine you ever bought. The greater loads that can be hauled, and the saving in wear and tear of horses, wagons and harness, the time saved and the additional comforts obtained are advantages enough to make everybody a "good road" enthusiast, and when once interested in the new order of things, you will think of and talk of little else until you have spread the gospel of good roads

from one end of the country to the other. The whole matter rests with the users of the roads. They get what they demand, and no more. If you protest against letting the old pikes run down, the authorities will certainly inaugurate a better system of maintenance. Certain men should do nothing but look out for and repair the old roads. Of course, it will take some time to put them all in good shape, but finally when they are gotten in order and are watched carefully, the cost in the long run will be far less than by the present system—or lack of system—and a thousand times more satisfactory to everybody.

#### Road Construction.

A few suggestions about the proper construction of a roadbed may not be amiss.

To begin with, the surface should be made **VERY CROWNING**, for it immediately begins to **FLATTEN** by use, and will continue to grow more and more so all the time if nothing is done to prevent it. But it can be held in good shape by occasional scraping. The scraping will also do a great deal towards filling up the small depressions, which are the real beginning of all trouble. But some new material must be carefully put in by hand where needed—not too much, as that will create two holes where before there was but one. Use more brains and less stone! A good road cannot be made without **hard thinking**. Keep in mind all the time that you are **fighting water**! You will notice that the roads always remain in the best condition on the grades where the water can easily run away, and you will also observe (after you become interested) that they always grow bad first in the valleys and level places, and that it is because the roadbeds are **flat**, or perhaps even hollowing with little dams of sod up on the sides so that the water stands there until it soaks in or dries up, instead of running away quickly, as it should, and would if the surface was kept crowning and the furrows kept from forming, which act as canals to conduct the water down into the lowest part of the road, where mud and destruction join hands in their evil work.

Thousands of little culverts may be found covered with loose or broken planks. They are a fearful nuisance and a source of danger all the time. You must bring your horses to a practical standstill before attempting to cross with a load, and if the old family horse is trotting along in a comfortable mood, he must be "jerked up" to a slow walk until you are safely over the danger trap. Along the valleys where the roads are level is the very place where trotting should not be interrupted. That is where the roads should be the very best, instead of the very worst, as they always are.

Either iron pipe, tile or stone or concrete arches should be substituted for every wooden-covered culvert in existence, just as fast as possible, allowing the solid earth roadway to continue along unbroken over them, but as they now are they are a menace to safe traveling and a relic of "old corduroy days," and should no longer be tolerated.

We trust no apology is needed to justify the sending forth of this little messenger. Its mission is to promote good fellowship and to draw attention towards the defects in our general road system and to encourage mutual co-operation in working out some means of remedying the trouble. There is nothing whatever deserving of censure or to complain about so far as the past is concerned, but rather everything to call forth the very highest praise possible for what has been accomplished. Our aim now is to try and anticipate some of the needs of the future and to provide for them in accordance with the demands of modern civilization.

#### Always Something Better Ahead.

There have been many epochs in road-making in this country, each one filling the necessity of the times when in vogue. But nothing is ever final! There is always something better ahead and we are ever trying to grasp it. Old ways are constantly yielding to the alluring promises of the future, and you are continually discarding old agricultural implements and replacing them with the very latest inventions; and still the end is not in sight. Road improvements will be no exception to the law of evolution, and before another decade rolls around there should be no better roads in the world than you will be riding over in Allen County. This is not uttered as a prophecy, but based upon the certainty that you cannot change your natures, and will continue in the future as you have done in the past.

We wish it to be most distinctly and thoroughly understood that there is no intention whatever of trying to convey the impression that there are no good roads in Allen County. That would be both unkind and untrue, for there are many miles that are almost as perfect as they can possibly be. And it is this fact which furnishes the greatest encouragement to push this work forward. If three hundred rods out of a mile are good, it seems only reasonable to suppose that the other sixty-five rods can, and should be, made just as good. Take a mile of perfect road, if you please, and scoop out a few hollows—make a hole or two—put in a culvert,

lay a tile across the road—and see what has happened. It has been transformed into a really bad mile of road, and still nine-tenths of the distance remains just as good as it was before; but, unfortunately, it is disconnected instead of continuous, as it should be for a practical road to travel over.

Good intentions are visible behind every move of the past, but after summing it all up we discover that the trouble rests upon the common fault of neglecting details, which in this case have been eclipsed by the desire to do too much new work.

Now, finally, after having the roads properly built—on paper, at least—let us consider

### The Etiquette of the Highways.

A little "frank and honest confession" will be good for us all. Comparatively speaking, the automobile is a new thing on our country roads, and it is not strange that at first there should have been a good deal of opposition to it by the drivers of horses. The man at the wheel was "green," and often had difficulty in managing the thing as he should, and the horses and drivers did not know what in the world to expect, and both sometimes nearly went into fits at the sight of the "red devils," as they were called; but both sides are fast becoming familiar with the thing, and many horses do not see an automobile any more. The time seems at hand when there should be nothing but good-fellowship between the two methods of travel. The question seems to hinge more on individual human nature than any universal desire to make an absolute lump condemnation of both the man and the machine. Courtesy or "cussedness" may come from either side, according to the make-up of the men themselves, regardless of which kind of "animal" they drive. Practically all those who now own machines were horse owners before, and if they are discourteous now they were when they drove the horse. Our nature is not shifted as easily as that. Some men, you know, always have great difficulty in being gentlemen at all times; some never succeed. And we feel like asking the horse men to make a distinction, and concede that a man could be a pretty decent sort of a chap although he does ride in an automobile.

As sure as the wheels of progress continue to revolve, our ranks will be recruited by the tens of thousands from the present owners of horses—and what if you should happen to be one of them? It would not make you bad, would it? Neither has it made any of us worse than we were before we changed (possibly some of us might have always been bad!).

To show how rapidly the automobile is coming into use, statistics show that in 1904 there were sold \$24,000,000 worth; in 1905, \$42,000,000; in 1906, \$60,000,000; and this year, \$80,000,000 worth. This is pretty convincing that they will supplant the horse for pleasure driving, the same as the modern reaper and binder has supplanted the "old cradle of our fathers" for harvesting purposes.

The gasoline engine is becoming a necessity on the farm. Every farmer will soon know how to manage a gasoline engine, and consequently how to manage a simple automobile. Eventually denatured alcohol will take the place of gasoline. The farmer will produce his own fuel; he will carry himself and his family around in his alcohol automobile; he will carry his goods to market or to the railroad station in the same way.

Now, under these circumstances, is it not best that all the information possible in relation to *The Etiquette of the Road* should be in the possession of those who travel? By carefully observing all the rules it will greatly lessen the chance of accidents and make everybody smiling friends as they pass by.

### Keep to the Right.

Centuries ago, convenience and custom decided what was the best rule for vehicles to observe in passing each other; and later the custom was enacted into a law declaring that we must "keep to the right," but through thoughtlessness there is a wonderful disregard of this rule by at least one-fourth of the people who drive

horses. They probably all know what the law is, but do not quite realize the great importance of a strict observance of it; although, as a matter of fact, nothing could be more vital. The safety of everyone hangs on never deviating from the rule—not once, even—(except by mutual consent for some good reason). When two horses meet, at a walk, it makes little difference what they do. But with a trotting horse and an automobile it is a very different matter. If both know, absolutely, what the other fellow is going to do, they can pass without danger; but if one driver is undecided as to what he had better do himself, and also entirely ignorant as to what the other one may do, there is likely to be some pretty sharp "dodging" when they come into close quarters—and there may be some swearing after the danger is all over with. This could and should be remedied; and will be as soon as everybody fully understands how very necessary it is that they do nothing else but just **turn to the right!** Keep saying it over to yourself—"turn to the right." Tell your wife and children about it. Warn them of the danger of doing otherwise, and in a little while it will become a fixed habit for everybody to turn to the right. When an automobile is coming up from behind and wants to pass, the driver will blow his horn in good time to give you warning. And in order that the automobile driver may know—dead sure—that you have heard the horn, you should immediately pull your horse to the right. Then the automobilist understands exactly what you intend to do, and you may feel perfectly secure that he will do you no harm whatever, provided you stick to the right side of the road! It is one of the remarkable, but common things, for the driver of a horse to change his, or her, mind as to which side of the road she (as it is more often women who do it) had better go, and will pull the horse first one way and then the other, and then when the automobilist thinks the matter settled and begins to pass, she suddenly concludes that the other side will be better after all. This is a source of great danger!

Instruct every member of the family on that point. Let them all read this little book. Warn them when leaving home to be sure to keep to the right!

The Lima Automobile Club cautions all their members on this point, and to be very careful when about to meet a horse, and if he is afraid, to either turn out as far as possible or stop his machine and lead the horse past it. We do this many times in a day, for we want to be humane, decent and courteous at all times; and above all, to cultivate your good-will and friendship, for we know that from now on we have to travel the same roads together, whether they be good or bad. We are far more anxious to avoid an accident than you can possibly be. We want to try to undo the prejudice against us, instead of aggravating it.

All automobilists are not members of our club, and perhaps all members do not always do as they should; but you may be sure that we do not sanction anything but true courtesy on the road, any more than you approve of some "piggish" horseman sticking to the middle of the road and refusing to give an inch—making the automobile take to the ditch while he is deriding us with bad language as we go by. Of course, he is an exception. But we are meeting that kind every little while, and no doubt some of the same kind of men are driving automobiles, but we trust that they also are the exception. That kind of men are devoid of all shame, but both sides must put up with them without lowering our standard of good behavior to each other. As before stated, it is all a question of individual human nature. And neither should be condemned as a class because of what some "bad pill" may happen to do. Always be right ourselves! Keep right, and keep to the right under all circumstances, whether you meet someone or someone wants to pass you from behind—and do it promptly and never change your mind! There is but one thing to remember—RIGHT! Turn to the right—STICK TO THE RIGHT—and you will always BE RIGHT.

Thanking you all for reading this little book, we are,

Fraternally yours,

THE LIMA AUTOMOBILE CLUB.

## PENNSYLVANIA FARMERS BECOMING INTERESTED IN ROADS

YORK, Pa., Jan. 6.—That the farmers are also taking an active interest in the good road crusade in this part of Pennsylvania is shown by the announcement that instructors of the State Department of Agriculture will speak on the making of good thoroughfares at the sessions of the Farmers' Institute to be held at Glen Rock, January 15 and 16.

Local autoists have been after the farmers for several years with the hope of encouraging the building of good roads, and they now feel that the latter are finally awakening to the situa-

tion. Many of the troublesome "thank-you-ma'ams" are disappearing from the roads in this section and in the new stretches they are being eliminated entirely.

These farmers' institutes are held in different parts of the county at regular intervals, and it is thought that the good roads question will come in for a great share of discussion and general approval before the sessions come to a close early in the spring. Every encouragement will be given to the farmers by local autoists, and special committees will attend the sessions.



## BRITAIN SEEMS TO LEAD IN NUMBER OF CARS USED

**S**EVEN nations of the world have created an export automobile trade of sufficient importance to justify a place in the financial returns of the government. Ten years ago neither France, America, Germany, England, Italy, Switzerland or Belgium had sufficient trade in automobiles to warrant government returns. In 1898 France, first of all nations, gave separate figures on automobile imports and exports, the latter attaining the moderate sum of \$337,000. Last year the industry had developed to such magnitude that it was sixth in national importance, only being surpassed by such staple industries as silk, wool, cotton and wines. For the first six months of the fiscal year 1907 French exports of automobiles, cycles and tires reached a total of \$19,400,000. It is estimated that for 1906 the exports of automobiles from the seven leading nations totalled \$42,000,000, the entire foreign trade, counting both exports and imports, reaching almost \$100,000,000.

Instructive figures compiled by *Commercial America* show that the United States comes second in volume of exports, the total

period covered by official returns, the value of the cars being quoted at \$10,000,000. Automobile parts reached a value of \$11,628,280, giving a total for complete cars and parts of \$21,628,280 for the eleven months. Calculating the importations of the remaining month at the same rate, this would give about twenty-four million dollars' worth of automobile exportations to England alone, being at the rate of \$60,000 a day. A small percentage of the exports to Great Britain would finally find their way to America and other countries, only being taken into England for re-exportation; these, however, do not figure separately in the official reports. It will be noted that during 1906 France imported for a greater value than any previous year, the total being very little short of 1904 and 1905 combined. More than one-half of these imports came from Germany.

### England the Greatest Buyer of Foreign Autos.

So great has been the demand for automobiles in the British Isles that the factories have been unable to keep up the supply.

### AUTOMOBILE IMPORTS AND EXPORTS OF SIX LEADING NATIONS.

	FRANCE		ITALY		UNITED STATES*		GERMANY		BELGIUM		GREAT BRITAIN	
	Imports	Exports	Imports	Exports	Imports	Exports <sup>a</sup>	Imports	Exports	Imports	Exports	Imports	Exports
1898	77,000	337,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1899	91,000	821,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1900	100,000	1,817,000	232,000	7,000	43,000	.....	.....	.....	.....	.....	.....	.....
1901	130,000	3,046,000	451,000	20,000	530,000	948,000	340,000	554,000	77,000	165,000	.....	.....
1902	208,000	5,835,000	415,000	33,000	963,000	1,207,000	846,000	1,129,000	109,000	231,000	4,827,000	754,000
1903	244,000	9,811,000	541,000	112,000	1,294,000	1,895,000	1,197,000	1,259,000	101,000	254,000	8,340,000	1,387,000
1904	740,000	13,710,000	790,000	214,000	2,297,000	2,481,000	1,649,000	2,491,000	166,000	328,000	10,122,000	1,167,000
1905	835,000	19,351,000	1,261,000	510,000	3,844,000	3,497,000	3,132,000	3,397,000	201,000	756,000	11,874,000	1,830,000
1906	1,531,000	26,606,000	1,910,000	2,286,000	4,041,000	5,502,000	3,979,000	4,200,000	240,000	1,097,000	12,100,000	2,408,000

\*United States statistics are for fiscal years ending June 30th of following years. <sup>a</sup> United States exports include automobiles and parts

for the fiscal year ending June 30, 1907—the first year in which the value of automobiles is given separately from that of parts—being \$4,890,000. From the chart reproduced from our contemporary, it will be seen that the value of the exports of automobiles from France is greater than that of all other countries combined. Germany follows the United States very closely, Great Britain and Italy being some distance behind and Switzerland and Belgium far in the rear.

### Growth of the Industry in France.

A fair idea of the growth in importance of the automobile industry in the six most important countries can be obtained by reference to the accompanying table. It will be seen that France, the largest exporter, has steadily increased from \$337,000 in 1898 to \$26,000,000 in 1906. The latest returns, covering the first nine months of 1907, show automobile exports to the value of \$21,789,200, being an increase of more than five and a half million dollars over the same period of the previous year, compared with roughly \$2,800,000 increase from 1905 to 1906. Although the French increase in exports has been steady, and has maintained approximately the same proportions since 1903, it has not been as rapid during the last two years as that of some other European countries. Six countries imported more than one million dollars' worth of automobiles from France during 1906, as follows:

Great Britain .....	\$12,100,000
Germany .....	3,200,000
Belgium .....	2,900,000
United States .....	2,400,000
Argentine Republic .....	1,400,000
Italy .....	1,200,000

England, the most important customer of France, took 4,615 automobiles during the first eleven months of 1907, the last

The increase in imports of automobiles and parts since 1902 is shown in the following table:

	Cars.	Value.	Parts Value.
Imports..			
1902 .....	3,747	\$5,376,000	\$540,000
1906 .....	5,776	\$12,098,000	\$9,117,000
Exports..			
1902 .....	415	\$754,000	\$82,000
1906 .....	1,380	\$2,413,000	\$1,576,000

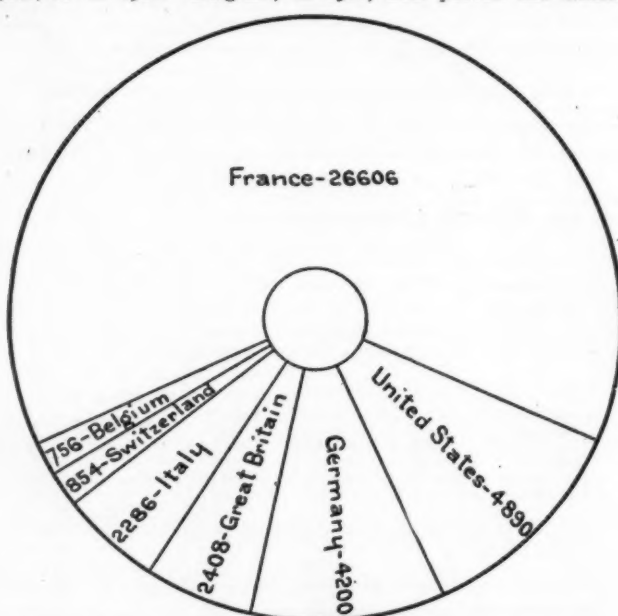
In addition to complete cars, Great Britain is also the largest importer of parts, the value of those imported during 1906 being double the value of the previous year. During the first ten months of 1907 the increase of automobile parts was two and a half million dollars more than the same period of 1906, two-thirds of these parts coming from France. Exports increased one and a half million dollars during the first ten months of 1907, two-thirds of the automobiles being sold to British possessions, India, Australia, New Zealand and South Africa taking large quantities. Among foreign countries the United States, Argentina, Italy, and France were the largest buyers.

In Germany the value of the imports of automobiles has steadily gained upon that of exports, until 1906, when they were about equal. During the first nine months of 1907, however, the imports increased and the exports fell back, so that Germany will import more this year than it will export. The valuation of automobiles according to the German tariff is 10 marks per kilogramme for motor carriages and 4 marks per kilogramme for commercial wagons. This is the only nation that makes the distinction between these two classes of vehicles. Three-fourths of German imports came from France. Great Britain stands first in imports from Germany, the value largely being made up of automobile 'buses and other classes of commercial vehicles. In the first nine months of 1907 Germany imported 1,559 auto-

mobiles, valued at \$3,500,000, of which 31 were commercial vehicles. During the same period it exported 995 automobiles, valued at \$2,793,000, of which 221 were commercial vehicles. There has been a falling off of \$400,000 in the value of exports and an increase of \$320,000 in the value of imports over the same period of 1906.

#### Greatest Recent Increase Made by Italy.

Italy has made greater proportionate advances in the value of automobile exportations during the past two years than any other country, the exports being quadrupled from 1905 to 1906. Around Turin especially, the increase has been tremendous, the Italians claiming equal importance for this district as Suresnes and the neighboring suburbs of Paris, or the city of Detroit. From \$7,000 in 1900, an increase of exports has been made to \$2,286,000 in 1906. Belgium, in 1906, first passed the million-



EXPORT OF AUTOMOBILES FROM SEVEN LEADING NATIONS.

Total value, 1906—\$42,000,000. Value in thousands of dollars, 000's being omitted. The value of exported parts is not included in the chart.

dollar mark in value of exportations, with a promise of further increase. Its imports are small and do not show a tendency to increase.

#### The Story of a Stupendous Home Growth.

America's story of increase has to be presented on the basis of the national output, on which lines it is as astounding as the export figures presented by France. These are to be found in the various census returns, from which it is seen that there was an increase in the value of products of 461 per cent. between the census years of 1899 and 1904. Regarding 1907, estimates only can be made, but even on a moderate basis they show a progress that is unprecedented for an industry which hardly existed ten years ago. The two census returns and the estimates for 1907 and 1908 show a substantial growth as follows:

American production, 1900.....	\$4,748,000	
" " 1905.....	\$26,645,000	21,692 cars.
" " 1907.....	\$80,000,000	40,000 cars.
" " 1908.....	\$100,000,000	50,000 cars.

In addition to the automobiles of home production there must be added those received from foreign countries, the returns for the years 1901 and 1907 being:

Imports, 1901.....	\$43,129	26 cars.
Imports, 1907.....	\$4,041,000	1,176 cars.
Imports, 1907.....	\$801,000	parts only.

Of the cars received during the past year 841 were from France, 144 from Italy, 104 from Great Britain (these being

largely composed of re-exported cars), 61 from Germany, and 27 from other countries.

It is somewhat difficult to compare the American industry bulk for bulk with that of any other nation, for while the importance of every foreign nation depends on its export trade, and official figures deal only with cars sent abroad, American census returns deal with the industry as a whole. French imports will reach \$27,000,000 in 1907; placing the value of the home consumption at the same figure—a generous estimate—this would give a production value for France of \$54,000,000. Great Britain, according to general estimate, will produce automobiles to the value of \$25,000,000, making a total production of \$79,000,000 for the two most important countries of Europe. Thus the American production for the past year has been, if not greater, at least equal to that of France and Great Britain combined.

Most significant in this story of growth is that the United States has attained a position in the export world second only to that of France, the number of cars sent abroad in 1907 being 2,862, valued at \$4,890,000. In the chart of the exports of automobiles from the United States by countries, the value of the parts is also included. This amounts to \$611,000 for all countries. From this chart it can be seen that Great Britain is the largest purchaser, followed by the British colony of Canada, these two alone taking nearly one-half of all the exports from the United States. Concurrently with the growth of the automobile industry has sprung up a considerable export trade in metal-working machinery, every factory in France, Italy, Germany and England being stocked with American-made machine tools.

In 1900 the leading automobile manufacturing States were Illinois, Massachusetts, New Jersey, New York, Ohio and Pennsylvania. In 1905 Michigan alone made more automobiles than the whole country in 1900; the same was also true of Ohio. There is a strong tendency, too, for the American automobile industry to group itself in large cities, eighty per cent. of the products of the industry being credited to cities of over 20,000 population, 86 establishments out of 121 being in these cities. The leading cities with the value of their output, as given by the census, are as follows:

Detroit .....	\$5,382,000
Cleveland .....	4,256,000
Buffalo .....	1,385,000
New York .....	1,186,000
Indianapolis .....	797,000

#### England Leads in Number of Autos in Use.

Contrary to general supposition, it is not the United States but Great Britain which leads in the number of automobiles in use. The figures of France, which come fourth in importance, are always conservative, the returns being based on the number of automobiles actually paying tax based on horsepower. Manufacturers' and dealers' stocks are not declared for taxation purposes; cases of double taxation are exceptional, and there must be a number of rarely used machines in repair shops and elsewhere which escape the official returns. French figures thus comprise only those machines in actual daily service. British returns, being based on registration giving no encouragement to false returns, may be taken as perfectly reliable. The American figures are based on estimate, no complete returns for the whole of the States of the Union being available, and even those making returns being not altogether correct, owing to duplicate registration. The returns for the year 1907 in the four most important countries are:

Great Britain .....	119,618
United States .....	80,000
Germany .....	42,980
France .....	31,286

In the figures for Great Britain are included 53,877 motorcycles; Germany's fleet of two-wheelers included in the total amounts to 15,700.



## LETTERS INTERESTING AND INSTRUCTIVE

### USING A SINGLE COIL ON TWIN ENGINE.

Editor THE AUTOMOBILE:

[1,074.]—We would like to know if we can use a single spark coil—a Splitdorf—on a double-opposed engine to work all O. K.? Give us full instructions as to how to wire same for a four-cycle. Also the proper way to pipe up the water so it will work right through both cylinders at one time for above engine. The coil is a vibrator dash style.  
A SUBSCRIBER.  
Canton, O.

Assuming that you now have an engine wired up to use two vibrating dash coils, the only changes necessary are to carry both wires from the timer to the single coil you propose to use and take two leads from the secondary, or high tension, side of the coil, one to each of the spark plugs. This will cause a spark to occur in both cylinders every time contact is made and as long as one plug does not present any materially greater resistance to the passage of the spark than the other, both should spark without imposing any extra duty on the coil. The battery is connected to the primary, or low tension, side of the coil in the usual manner, the other side being grounded; that is, attached to some part of the motor, or of the car near the motor, while the same is done with one side of the secondary to form the usual ground return in each case. This is the simplest method available, and while it may work satisfactorily for a long time at a stretch, it is not the best method to use. For the latter, the timer at present on the engine should be removed and a distributor substituted. This may be had from any dealer in ignition accessories. It times the low and high tension currents simultaneously and the connections are very simple, the following being the complete wiring: One wire from battery to low tension side of coil, second wire from battery to ground, i. e., on motor or frame; one wire from primary of coil to distributor, second wire from low tension side of coil to low tension side of the distributor, this being plainly marked on the latter, as are also the secondary connections. One wire from secondary side of coil to distributor; one wire from each of contact points of latter to each plug; second wire from high tension side of coil to ground connection.

The piping for the water circulation of the motor should be so arranged that the cold water enters each cylinder at the same temperature and leaves it at the same temperature. That is, instead of running the water into the jacket of one cylinder, and from there into the jacket of the second cylinder and then back to the radiator, it must be piped from the radiator directly into both jackets, and from the latter back again. A single pipe suffices for this in each case, branches being made just at the motor. A three or four-inch section of good rubber hose should form part of both the cold and hot water pipes in order to provide for any relative movement of the radiator and the motor, as otherwise the pipes are apt to be snapped apart by the jolting.

### ONE CARBURETER WILL WORK BETTER.

Editor THE AUTOMOBILE:

[1,075.]—We have an eight-cylinder 5 by 5 1-2, four-cycle light auto engine with two 1 1-2-inch carbureters on it. Is there any reason why one carbureter won't work just as well as two?  
HAVERHILL, MASS. HAVERTHILL PASTE CO.

Probably you will find that removing one of the carbureters now on the motor and devolving the entire duty upon the one remaining will give better results than formerly, provided that the carbureter has sufficient capacity and that the manifold be arranged in the proper manner. All the eight-cylinder motors we have ever seen have never been equipped with more than one carbureter.

### SIMILAR TROUBLE WITH COPPER TANK.

Editor THE AUTOMOBILE:

[1,076.]—I read with considerable interest question 1,028 with your reply under "Letters Interesting and Instructive" in your December 19 issue, as I had a similar experience with the gasoline tank in my car, with this difference: In my case the scale or flake which formed in the gasoline tank and clogged the outlet and feed pipes was BLACK. The tank in my car is made of copper instead of galvanized iron, but I have been unable to discover the reason for the existence of the scale, as I have been very particular about the quality of the gasoline used and always strain it through a chamolais.  
A. H. LANDSBERGER.  
San Francisco, Cal.

Several replies have already been received from subscribers and some of them published in this department regarding trouble of the nature described by Dr. Tuttle in the letter which opened this line of inquiry. But thus far, without exception, each one of these answers from autoists in different parts of the country has ascribed the cause of the precipitate to the employment of galvanized iron for the tank, and in one case at least it is stated that the substitution of copper for the fuel container proved an entirely satisfactory remedy both in a motor-boat as well as on an automobile. The fact that in the present instance the usual copper tank is employed puts an entirely new aspect on the matter, and with the exception of the indication that the color of the scale or formation points to some chemical combination of a constituent of the fuel with the metal of the tank, we must confess our inability to state just what the reaction between the two is, as well as the nature of its product. However, as numerous engineers, chemists, physicians and other technically skilled men are to be found among the subscribers of THE AUTOMOBILE, we have never failed in the past for lack of responses of the most satisfactory nature to even the most abstruse questions of any nature, and feel confident that an appeal for information in the present instance will prove no exception to the rule. We should be pleased to hear from any autoist who has experienced similar trouble, or who knows its origin, whether he happens to be a subscriber or not, the matter being one of considerable general interest.

### REDUCING THE GEAR RATIO OF A CAR.

Editor THE AUTOMOBILE:

[1,077.]—I bought a runabout and want it changed to a touring car with semi-limousine top. I want to find out how I will gear my sprockets down. I have thirty-seven in the rear and twenty-four in the front, which I know is too high for a touring car. I want to gear it down to about 4 to 1. Please let me know the best way to gear this down. I have thirty-six-inch wheels.  
Baltimore, Md. R. B. FIELDS.

In order to be able to reduce the gear ratio of your car to the desired point, it is essential to learn just what it is now, and the data concerning the sprockets alone is not sufficient for this owing to the reduction at the bevel gearing on the countershaft. With the car on a smooth, level floor, turn the engine over until the piston of the first cylinder is about to start downward on a power stroke. Make a mark on the flywheel and on some part of the motor alongside of it so that the revolutions of the flywheel can be counted. Then make similar marks on the tire of the rear wheel where it touches the floor, and on the floor itself directly beneath it. With one man to watch the flywheel and another to keep an eye on the mark of the rear wheel, push the car forward in a straight line, having set the change speed lever at the point corresponding to the high speed or direct drive before starting. A revolution of the engine should be counted every time the marks of the flywheel and motor coincide, and the car should be halted the moment the chalk mark on the tire again comes down to the floor, thus completing one revolution.

tion of the driving wheel. The number of turns the flywheel has made during this time will give the gear ratio of the car. Unless this is found to be higher than 3 to 1, we should hardly advise changing it merely on account of the weight of the touring body. You do not state the power of the car, but as it has 36-inch wheels, we judge it to be of 30 horsepower or over, in which case the extra weight would not affect anything more serious than a slight reduction of the speed. If the present gear ratio be 2.5 to 1, it would be advisable to lower it by using smaller forward sprockets. The present ratio of the sprockets alone is 1.54 to 1, i. e., the forward, or driving, sprocket makes a turn and a half for every turn of the driven sprocket. Either a 20 or an 18-tooth forward sprocket, giving reductions of 1.85 to 1 and 2.05 to 1, should prove satisfactory. Unless the car has but small power for its weight, it would hardly be advisable to gear it as low as 4 to 1.

### CONCERNING KEROSENE AS A PREVENTIVE.

Editor THE AUTOMOBILE:

[1,078].—Will you please publish under "Letters Interesting and Instructive" at what temperature kerosene boils. I tried kerosene in place of water to cool my engine with, but it is not altogether satisfactory. It circulates and the radiator does not get very hot, but the kerosene will smoke and "steam" on about a half hour's run. The other objections are that it is so dirty to handle and gives off a bad odor.

Please give name of some tester or instrument that could be used to tell the density of a calcium chloride solution. What should it read to stand 15 below zero? I am afraid to use a solution of it now, as I do not know where it would freeze at.

Oregon, Ill.

F. R. ZEIGLER.

Kerosene distilled from different grades of petroleum differs more or less, the same as gasoline, but its boiling-point will be found to average between 180 and 190° F., according to its specific gravity. It is far from being a satisfactory substance to use in the cooling system of an automobile, even if it were not burdened with the disadvantages of a low boiling point and an offensive odor. We should think its use would be more or less dangerous, at it becomes highly inflammable when raised to this temperature and also gives off an inflammable and explosive vapor.

A hydrometer is employed to test the density of a solution, and when ordering it the nature of the solutions with which it is to be employed should be stated, as these instruments are made for numerous special purposes. We have no data at hand as to the density of calcium chloride solutions to prevent freezing at stated temperatures, but you can easily ascertain this for yourself without any trouble. The proportion of four pounds of calcium chloride to the gallon of water, gives a solution that will resist freezing down to slightly lower than 15 below zero F. Having prepared this, test it with the hydrometer and mark the latter at the point on the scale to which the instrument sinks in it. If loss from steaming or evaporation is feared, the hydrometer may be dropped into the solution in the radiator from time to time and if it shows that it is becoming heavier by allowing the instrument to float higher, add sufficient fresh water to restore its former specific gravity. The solution should be tested for acidity before being placed in the radiator by dipping a piece of blue litmus paper in it; if the paper turns red, a small amount of slaked lime should be added, until the paper shows no reaction, a fresh piece being used each time. Get the best calcium chloride obtainable, as the crude salts are apt to contain considerable free acid.

### IS A NEW CARBURETER THE BEST CURE?

Editor THE AUTOMOBILE:

[1,079].—I should appreciate your opinion on the following: I am driving a 1907 Maxwell runabout and have been thinking for some time that perhaps I could get better results by installing a "Holley" carbureter. Perhaps the fault lies with me in not being able to get the proper adjustment with the present carbureter.

My motor misses considerable with the spark advanced and gas all on, batteries and vibrator in good shape. J. A. SPOONER.  
North East, Pa.

So many autoists, when they find themselves in a similar predicament, never appear to stop to ask themselves whether the device they are belittling has given satisfactory service prior to that time. It may have covered thousands of miles on the car with little or no trouble, but once the latter does come to afflict them their first thought is replacement of the offending article. We do not know whether this happens to be your case or not, but the practice is quite common and must, in numerous instances, lead to an unnecessary outlay for new accessories. The makers will doubtless be glad to assist you in every way possible, and we should advise consulting them as to the proper manner of adjusting the carbureter before making a replacement.

### TO MAKE GASOLINE MORE EXPLOSIVE.

Editor THE AUTOMOBILE:

[1,080].—Please answer through "Letters Interesting and Instructive" what is it they put in gasoline to make it more explosive, or have more power, and would it be safe to use it in a car? How much to the gallon?  
A SUBSCRIBER.

Portsmouth, O.

Picric acid is the material that has been employed on various occasions in racing to increase the power of the motor, and while it is said to accomplish this end successfully, it is not a safe thing to use from more points of view than one. The quantities employed are small, something like two per cent, we believe, although we have no data on the subject; but in addition to the risk of ruining the motor through the production of explosions far more powerful than it was ever designed to stand, it must be borne in mind that picric acid is commonly used for etching steel, and even though present in small quantities, it is apt to have this same deleterious effect on the cylinder, valves and other parts of the motor with which it comes in contact. Oxygen and acetylene gas have also been employed at different times to make a motor more powerful than it would otherwise be on ordinary fuel. Such expedients are never to be recommended for anything but racing, and they have but scant justification for existence even in that field. The autoist who values his motor should let them severely alone.

### A STAND FOR "RESTING" THE TIRES.

Editor THE AUTOMOBILE:

[1,081].—Some two or three years ago at the automobile show in Boston, I saw a certain stand that you could just run the machine on and that would raise it to rest tires, four wheels at one time. Could you please let me know the firm's name, if the concern is still doing business?  
PHILIPPE SYLBESTRE.

Woonsocket, R. I.

We believe that the device you have reference to is known as the "Autobed" and that it is still manufactured by a concern of the same name, located in Boston, i. e., the Autobed Company, 36 Columbus avenue, Boston. If this be not the article you have in mind, a further inquiry in these columns would doubtless elicit the desired information from some of our subscribers, many of whom seem to have wonderful memories where such things are concerned.

### MACHINING THE COMBUSTION CHAMBER.

Editor THE AUTOMOBILE:

[1,082].—Why is it that most gasoline motors produce a definite recurrent beat in the sound of their running, which appears to correspond with the number of cylinders the engine has—that is, with a four-cylinder motor, for example, every time four cylinders have fired the beat occurs. I do not know how to describe any better than this what I mean, but am sure that you must have noticed it yourselves. I figure that there is no reason theoretically why a single or multi-cylinder motor should not, when running right, produce an even, regular sound of perfect, unchanging rhythm, and a few motors do so, but the generality of them show the marked



pulsation I speak of. If you or any of your readers can explain this, I am sure that I, among others, will appreciate acquiring the information.

Toledo, Ohio.

DR. L. A. PRITCHARD.

We all have noted the effect you speak of, now that our attention is called to it, and it is the consensus of opinion in this office that failure to machine the combustion chambers, with consequent variation in compression between the different cylinders, is the cause. It is practically impossible to secure perfect uniformity in castings, so, in motors the compression clearances of which are left as cast, a variation in compression and completeness of exhaust, with consequent variation in power and the intensity of the exhaust noises, is produced. This would readily explain the reason for the "beat," which is simply a perception of a regularly recurrent sound, louder or softer than the rest. If any one else has any other or better theory to suggest, however, we shall be pleased to give space to it.

### INFORMATION WANTED ON FOUR-WHEEL DRIVE.

Editor THE AUTOMOBILE:

[1,083.]—Would you be kind enough through the columns of your paper to give me some information regarding four-wheel drive motor wagons, built in Milwaukee, Wis.; why they are using a main differential; I understand when one wheel is skidding or in a hole, then you are practically helpless. What would happen if one of either front or rear wheels got stuck; your power would not be available for either front or rear wheels. If your main differential was not there, it seems to me unnecessary for the low speed obtained with them to employ any differential between the two driving points.

P. S. SANDERS.

St. Paul, Minn.

We are not sufficiently familiar with the design of the truck in question to be in a position to answer your question intelligently. It is our impression that these vehicles are no longer being built for the market, but as quite a number of them were doubtless turned out, there will be in all probability at least several of our readers who can throw some light on the subject covered by your line of inquiry. If so, we will be pleased to hear from them.

### GEAR REDUCTION OF THE PACKARD ON HIGH.

Editor THE AUTOMOBILE:

[1,084.]—Will you please answer the following questions in "Letters Interesting and Instructive":

1. What is the gear reduction on Packard "30," 1907?
2. What is the gear reduction on Packard "30," 1908?

Saratoga Spa, N. Y.

CHARLES HESLIN.

The gear reduction of the Packard on the direct drive is 3 to 1, on both the models you mention, as well as on the one that preceded them, namely, the 1906 model.

### CONSIDERS ARTICLE RATHER "THEORETICAL."

Editor THE AUTOMOBILE:

[1,085.]—We have read the article on lamps, issue December 12, with some care. In general, we would say someone had written the article who is not connected with the industrial side of the question, and is "theoretical" rather than "practical."

Passing to specific criticism, we note that the use of the electric arc and the Nernst lamp is suggested. The smallest practicable size of the former takes about a fifth of a horsepower, and the latter from about one-seventh of a horsepower upwards, and in both cases there is the generating machinery to be considered. Most of us cannot spare so much power for lighting, and nobody wants the added machinery, so that the future for either of these illuminants for motor car purposes is not promising, except, of course, where a storage battery is the motive power. "Theoretically," we suppose they are all right.

The writer's definition of mean spherical candlepower is incorrect. Mean spherical candlepower is not a total, but an average; and is obtained by measuring the candlepower in a dozen or more directions (theoretically in all directions) and taking the average of the results. The term arose in connection with the measurement of incandescent and arc lights, or at least assumed importance in that connection. With flames such as acetylene, which give practically the same illumination in all directions, the mean spherical candlepower is nearly the same as the candlepower in any one direction. Fig. 1 of the paper means nothing.

The writer's figure of 12 per cent. as the available percentage of light in the arrangement of Fig. 2 is correct, if the box does not reflect any. He is also right in saying that the mirror in Fig. 3 converts into a parallel beam 12 per cent. of the total emitted by the flame. We measure the angle subtended by the mirror in Fig. 4 as  $140^\circ$ , and this makes the percentage falling upon the mirror  $34.2^\circ$ , and not  $37^\circ$  as he finds, but this difference is not material.

Figures 2 to 7 appear to be correctly drawn, but the argument based upon them rests on three assumptions which are by no means admissible without pretty definite proof, a part of which must be drawn from experience. The first assumption is that the law of inverse squares holds under all conditions. He makes this statement in the third paragraph, and it is not true, for reflector lamps, except beyond very great distances, several hundred feet or more; perhaps not even then. Inside this limit the law of inverse squares is not applicable, and a photometric measurement of such a lamp, against an open light as a standard is absurd.

Incidentally, the calculation of candlepower in the last paragraph is equally absurd. To show this, just draw a sphere in Fig. 7 with twice the radius of the one pictured. The beam D E will cut the larger sphere, and will be of the same size and consequently of the same brightness on it. But if it cuts out one-fiftieth (taking the figure given, which is probably correct) of the smaller sphere it will cut out only one-fourth as much of the larger one, and hence its candlepower would be 25 divided by one-fourth of one-fiftieth, or 5,000. This is a charming way of computing candlepower. You can get anything you please by taking a suitable radius for the sphere. We think you are familiar with our opinion that candlepower of reflector lamps means nothing. All that can be said is that such a lamp at such a distance gives as much light as would be thrown in the given direction by an open lamp of such-and-such candlepower; and as this value will change with every change in the distance, it is of very little use as a basis of comparison.

The second assumption which we think is by no means justified is that light not concentrated into a parallel beam is wasted, a statement the writer makes in so many words. If your lamp throws out a cylinder of light of the diameter of the front glass you will have brilliant illumination along this cylinder, and nowhere else; and if such a lamp could be constructed it would be of no practical use on the road, where the conditions are not those confronting the commanders of war-vessels or locomotives. Hence we take decided exception to the statement that the lamp of Fig. 6 has a net efficiency of only 88 per cent. We think all the light is utilized, and very well. In the case of Fig. 5, our opinion is that only the zone DC (IJ on the other side) is wasted, all the rest being usefully employed so that the efficiency of this lamp would be considerably above 50 per cent. The fact that the source of light is not a point prevents the attainment of perfectly cylindrical beams, and so the advantage of the slight divergence of the beam from the mirror is not seen at its best; but to our thinking the "fan" distribution is an indispensable part of the illumination.

The third assumption to which we take exception is that there is no absorption, either by the reflecting surfaces or by the lens of Fig. 7 or its mounting. He does mention the necessity of keeping the surfaces polished, but he omits to state that unless they are kept in perfect condition his figures are incorrect and the conclusions from them vitiated. A good mirror will reflect 92 to 96 per cent. of the light falling upon it; a poor one may send back anything less, down to almost nothing if the mirror is behind a smoky flame. How close to the mirror a hot flame can be placed without damage to the reflecting surface or deposit on the glass, we know by experience, but from such examples as we have seen on the road we have come to the conclusion that more is lost by imperfectly reflecting mirrors than is gained by a very large cone of intercepted light.

GRAY & DAVIS.

Amesbury, Mass.

### "CRY GOOD ROADS FROM EVERY HOUSETOP!"

Editor THE AUTOMOBILE:

[1,086.]—Will you allow an assiduous reader of "The Automobile" to make a comment on that most illuminating article, entitled "Learned in the Process of Evolution," by Charles B. Hayward, in the issue of December 6. Certainly a fairer, more generous article was never written, but may not some of the supposedly constructional vices of the modern automobile be laid at the door of the reckless, unintelligent conductor, and again to bad American roads? You can't escape these things merely by making automobile parts which allow an extraordinary margin of safety. This element may already be said to exist in most modern automobiles. Foreign cars, of which the writer knows something in a general way, French cars in particular, are certainly not—in most instances, ill designed or ill made, and the fact that high-class, well-known, French "marques" do occasionally go to pieces on American roads, is rather an indictment of those sloughs of despond than the type of car which has been run for tens of thousands of kilometers over

French roads with never so much as a cotter pin shaking loose or a nut having been started from its seat. Even that little Pekin-Paris affair brought out no serious structural faults that could not be well guarded against by an intelligent and painstaking and careful driver, and certainly no other kind ought to be let loose on the highways.

I am told that the bad roads in America necessitate a relatively high horsepower to get over the ground at all, to say nothing of making "la vitesse." This means, then, a relatively high cost product to begin with, and again a costly consumption of gasoline—and shall we not also include pneumatics? Cut it out; go to the roots; cry good roads from every housetop; not only good roads to begin with, but agitate for national support that shall help in the making of them and in their upkeep.

Even France, the most paternal of governments, in all things, is now studying the question as to what kind of good roads are best suited to the new class of traffic which goes over them in automobiles. The Romans and Napoleon did very well, but Republican France promises to do something even better. Shall Republican America remain behind with the buggies? The writer thinks not!

FRANCIS MILTOUN.

Martigues Bouches du Rhone, France.

### TAKES ISSUE WITH MR. FAY ON NEEDLE VALVE.

Editor THE AUTOMOBILE:

[1,087.]—I cannot refrain from sending you a line to take issue with Thos. J. Fay on his dictum condemning the adjustable needle valve, in his otherwise admirable article on the carbureter in your issue of December 26, 1907.

I am now driving and taking entire charge of my fifth automobile, and I am free to say that I would refrain from purchasing any car which had a non-adjustable gasoline nozzle. The car which I am now driving, one of the highest powered American cars (30 to 40 horsepower), had a double carbureter in which both nozzles were without the friendly old needle valve; the only possible adjustment being some movable slots for the control of the air. After a few weeks' trial the agents consented very courteously to take this carbureter out altogether, and to substitute for it one in which both nozzles had the familiar needle regulating valve. The change in the general behavior of the motor was magical. I can now keep the motor running to the best advantage under all varying conditions of temperature and humidity; and can do more good with a quarter turn of one of the needle valves than could be accomplished formerly with an hour's tinkering at the air supply. The manufacturer of the car wrote me a polite letter on the subject, saying that he had adopted the non-adjustable gasoline nozzles because he had found a tendency on the part of inexperienced purchasers to get the adjustable type of nozzles out of order.

I think the trusting too much to automatic mechanical action on the part of manufacturers is an error; since often in making a machine "fool-proof" (insulting phrase) the tendency is to produce a machine which, while it will run tolerably well for everybody, will never run just right in the hands of anybody. The average owner of an automobile is an eager student of mechanical principles, and it seems to me that each year he grows fitter to be trusted to make those small daily adjustments, which are necessary if the motor of an automobile is to do itself full justice.

Philadelphia, Pa.

A. S. LOGAN.

### SHOULD DRIVERS NOT BE SUBJECT TO TESTS?

Editor THE AUTOMOBILE:

[1,088.]—While attending the recent automobile show in Chicago, I had the misfortune to be in a car when an old street sweeper was knocked down and almost run over. Luckily he was not hurt seriously, although it was necessary to take him home in a carriage. This happening so completely finished my desires for demonstrations, that it was the only ride I took while in Chicago. We were turning slowly around on Michigan avenue to return to the Coliseum, with no power on, when the old fellow suddenly appeared directly in front of us. The boy driving had plenty of time to stop, but did not seem to know how; and that was the awful part of it. He did not know how to stop his car even when only running free and very slowly, and yet he was trusted with the lives and limbs of prospective customers, to say nothing of numerous pedestrians. And he actually confessed that he had never driven an automobile of any sort until the Friday before the show. With one day's experience, he was sent out to steer a car through the crowded avenue. Not to mention the foolhardiness of a firm in using such a boy for that purpose, does it not seem that some means should be used to put a stop to the use of automobiles by any one with so little knowledge of them? I wish I could stir up something or somebody to get some legislation on this subject, but realize that I have not the ability. However, you, through your excellent journal, should be able to at least start the thing, and it is a serious question.

FRED. L. MORGAN.

Alliance, O.

### ANOTHER EXPLANATION OF THE SCALE.

Editor THE AUTOMOBILE:

[1,089.]—In reading over your "Letters Interesting and Instructive," I was interested in Dr. Edward G. Tuttle's letter, No. 1,028, in which he states that a peculiar formation in his galvanized gasoline tank gave him considerable trouble. Explaining my experience with a galvanized tank in a gasoline launch last summer, I was troubled with a dark black scale which would run down the pipe line and clog up the carbureter. Upon close examination of the tank I found that I could pick off a dark scale where the seam had been soldered, which was probably caused by the uncut muriatic acid which was used for soldering same.

After I had remedied this I still had trouble with my carbureter choking up with a dark substance, but was much different from the tank scale. I afterwards found out by taking out my pipe line, which was ordinary gas pipe, and tapping it with a hammer, that I got as much as an ounce of black iron scale which had formed inside of the pipe after being in use for about three years. I would pronounce this scale a sort of rotted iron.

Hoping that Dr. Tuttle will find the experience useful, I remain,  
Springfield, O. R. D. VERCLER.

### DRY CELLS FURNISH SATISFACTORY SERVICE.

Editor THE AUTOMOBILE:

[1,090.]—Regarding query No. 1,052, would say that I became interested in ignition difficulties by Arthur F. Jackson's article on that subject in the May 23, 1907, number of your magazine, and also in that of a paragraph in the "Automobile Instructor," which says that "it is impossible to adjust a coil advantageously to battery consumption and correct ignition by the sound of the vibrator." I accordingly purchased a coil current ammeter and regulated the current of my coil to that of a 3-4-ampere strength, to do which I was obliged to weaken the vibrator springs besides the usual regulation by the screws. After so regulating I ran my car 1,600 miles on five dry cells and with the same spark plugs. I occasionally tested the current with the ammeter, but no regulation was required until the batteries became nearly exhausted, upon which I replaced them with new ones. So far as my experience goes, I can heartily endorse Mr. Jackson's statement that dry cells when used intelligently furnish a most satisfactory ignition. I think his article would be worth reprinting for the benefit of your new subscribers.

H. W.

Worcester, Mass.

### HAD TO SUBSTITUTE COPPER FOR THE TANK.

Editor THE AUTOMOBILE:

[1,091.]—Replying to inquiry No. 1,028, regarding the yellow precipitation occurring in galvanized gasoline tanks, I have had the same experience. Some years ago I ran a launch on Long Island Sound and had the same trouble, although the stoppage was not at the mouth of the gasoline outlet. In my case the precipitate entered the carbureter, but the result was the same—the engine stopped. I remedied the difficulty for the time being by putting in a through way between the tank and carbureter and using the attached pipe as a catch-basin. It was only a makeshift, and fearing the corrosion might continue until a hole had been made in the tank, I finally removed the latter and substituted a copper tank.

Several automobile manufacturers use galvanized gasoline tanks, and some time ago I wrote to the Lambert people asking them if they had ever any trouble such as described above, and they replied that they had not. I wonder if the precipitation is due to the salt air, and that away from the sea it would not occur?

Would like to hear the experience of others.

Easton, Pa.

R. K. B.

### VALVE STEMS THAT REQUIRED LUBRICATION.

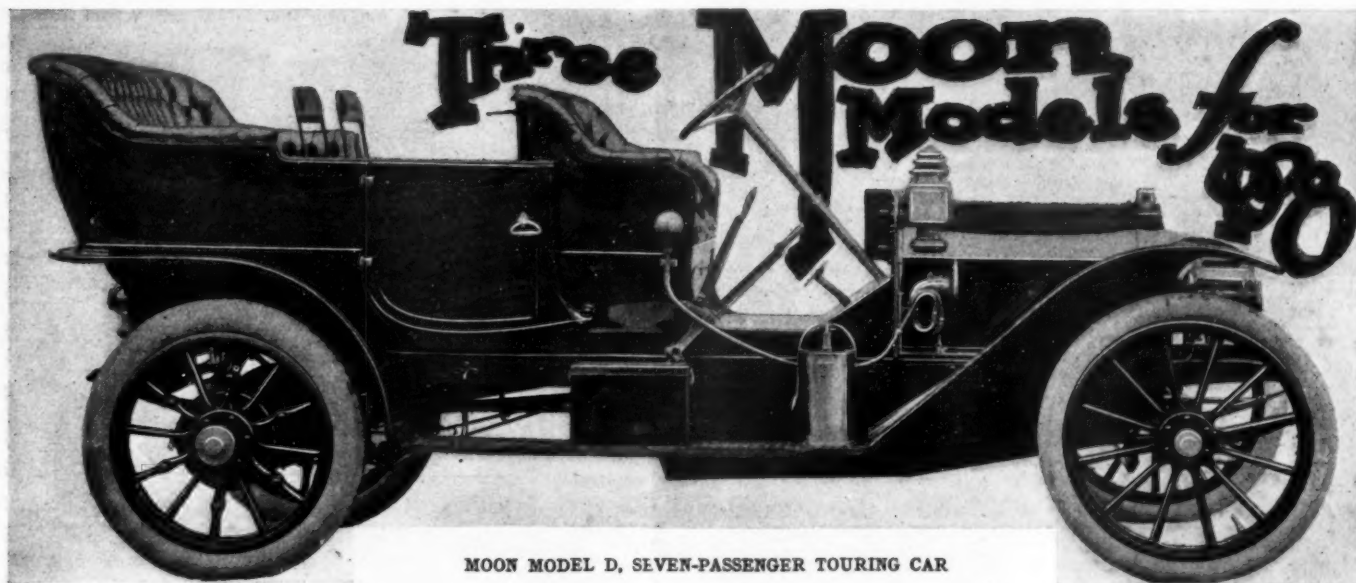
Editor THE AUTOMOBILE:

[1,092.]—With reference to query No. 1,035 on Valve Stem Lubrication, in reply to O. A. Weiss, I wish to say that during the summer of 1907, I ran a car on which valve stem lubrication for the exhaust valves was absolutely necessary. If not lubricated, the exhaust valves in the rear two cylinders, and occasionally in the others, would at first "snap" slightly, then louder, and finally if not attended to would stick, sufficiently to cut out the cylinder affected. A liberal application of lubricating oil applied while the motor was running always cured the difficulty. If I had kept the car for another season, I believe I would have fitted grease cups, if possible, to avoid the frequent oiling. I believe, however, this is a fault of this particular make of motor, and if properly designed lubrication would likely not be necessary, as this is the only car that I have seen on which this has been the case.

Brooklyn, N. Y.

LOUIS P. REEDER.





MOON MODEL D, SEVEN-PASSENGER TOURING CAR

MORE than the usual interest centers on the Moon cars for the coming season, as, in addition to the output of the factory which will be marketed under this title, they will also be sold in the East under the name of Hol-Tan by the Hol-Tan Company, which formerly handled foreign cars exclusively. As has come to be very general practice with American manufacturers within the past few years, the builder, the Moon Motor Car Company, of St. Louis, will concentrate its attention on the production of a single, standard type of chassis, which, however, will be marketed as three distinct models, namely, a roadster, a five-passenger touring car, and a seven-passenger touring car. L. P. Mooers, the designer of the car, has been identified with the building of automobiles in this country for such a length of time, that his name in connection with a car is a sufficient guarantee of its close adherence to well-recognized engineering principles, as well as the incorporation of a number of special ideas of construction gleaned in a number of years' experience.

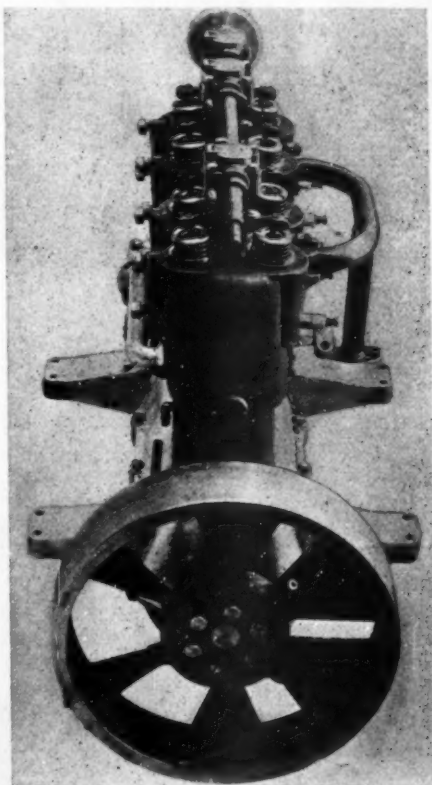
Foreseeing that the bulk of the present demand is rapidly leaning more and more strongly toward the moderate powered car, and that the ultimate demand will be almost entirely for a vehicle of this type, he has made the motor of a corresponding size, the bore and stroke measuring 4 1-2 by 4 1-2 inches, giving a maximum output of 38 to 40 horsepower at 1,200 r. p. m. on a brake test, thus permitting the car to be advertised as a 35-horsepower machine in full confidence that it will easily exceed its nominal rating whenever called upon to do so. In design the motor differs radically from the standard type in that a superimposed camshaft is employed and is driven from the crankshaft by a vertical spindle and bevel gearing placed at the forward end of the motor, as will be apparent upon reference to the illustration of this essential. A beam-axis rod is placed below the camshaft, on which the double-end, bell-crank beams rock, each beam working the two valves of the cylinder beneath it by means of an integral bell-crank fork, carrying a roller which comes in contact with the cam. The top of the camshaft turns toward the bell-crank roller, thus pushing

instead of pulling. The valve stems are slightly staggered, thus bringing the valves themselves inside a compression chamber but slightly larger than the bore of the cylinder. The valves are placed in cages and the tapered inner ends of the latter are ground into their seats in the cylinder heads. The bell-crank roller is held against the cam face by a coiled spring, hooked into the beam. This construction makes both valve cages the same,

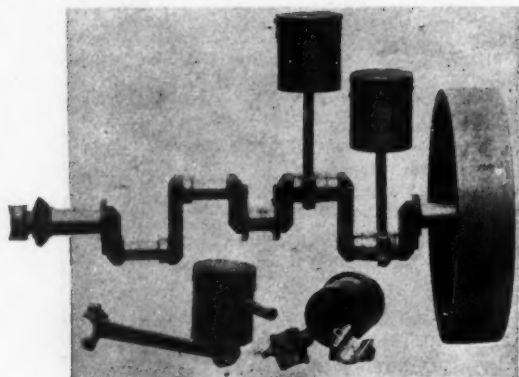
requires but one cam for each cylinder and but one camshaft, though still retaining the much-desired opposite disposition of the valves. It also permits of liberal water spaces, so disposed as to insure effective valve cooling. Circulation is taken care of by a gear-driven centrifugal pump, while the essential of oiling is provided for by a mechanical force-feed type of oiler, having eight leads to the main bearings and other important points so that all the latter are kept directly supplied with oil, this being supplemented by splash in the crankcase. The latter is of aluminum, in two parts, the lower being but an oil pan, all bearings being attached to the upper half, thus making inspection and adjustments easy. Ignition is of the high-tension order and for running service a self-contained unit in the shape of a Simms-Bosch magneto is provided. For starting, and as a reserve, a standard four-unit coil and low-tension timer system, taking current from a set of accumulators, is installed. The mechanical oiler is driven from the overhead camshaft by means of a round leather belt.

The first step in the transmission of the power consists of a multiple ring type of clutch. It comprises 53 rings, or disks, all being of the same material, steel.

Twenty-six of these are held by tongues on the inside, or female member of the clutch, while the remaining 27 are held outside by grooves, in the male member. These rings are very thin, averaging but little more than 1-32 inch in thickness, thus making the complete clutch very compact. The large number of rings makes the clutch drive very well when in slipping engagement, this also giving it a soft action and preventing any jerky movement in starting. One universal is placed between the clutch and the



VIEW OF SUPERIMPOSED CAMSHAFT.



SOME ESSENTIALS OF THE MOTOR.

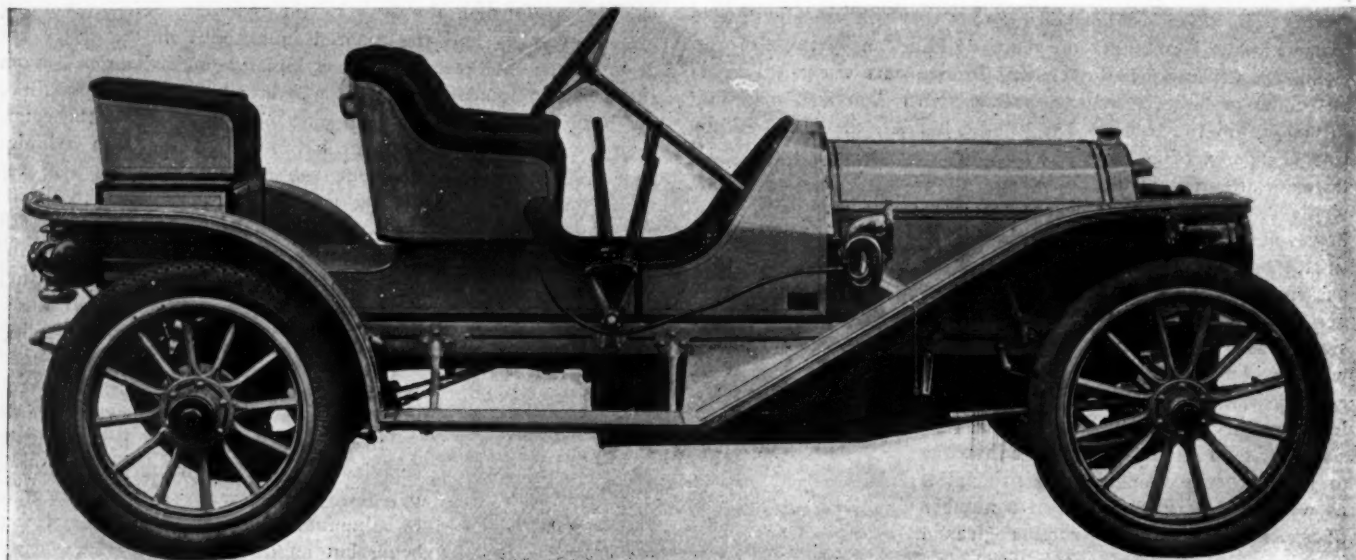
which squared revoluble locks are placed on two trunnions, set at an angle of 180 degrees, and which slide on the outer member. They are protected by flexible leather casings.

The gear-set housing consists of two aluminum members, joined in the plane of the line and countershafts, which are supported on bearings of Parsons' white bronze, the housing being designed particularly with a view to compactness in view of the

line shaft of the gear-set, while universals are also used at each end of the propeller shaft, all being of the same type, with the exception of the first, which is made with its shell split so as to facilitate assembly. These joints are of the well-known trunnion type in

are inserted and brazed, extending through to the wheel hubs at their outer extremities, the driving axle being of the full floating type. A spur differential is employed, the pinions running on four-point ball bearings, while the rear wheels are run on three-point ball bearings. Brakes are of the external contracting and internal expanding type, the friction surface being lined with camel's hair belting, the outer bands being so applied as to make the brakes equally effective in either direction. The brake equalizers are steel tubes suspended by links jointed transversely at the top and longitudinally at the bottom. The brake rods are attached at the center of these long, tubular steel equalizers, thus perfectly balancing the resistance of one brake against the other and making a simple arrangement not likely to become deranged.

Full elliptic springs are employed on the rear and semi-elliptics in the front, the latter being jointed in front and linked at the rear, while the rear springs are revolubly mounted on the rear axle saddles, or perches, and are similarly connected to trunnion brackets attached to the side frames at the top. In order to provide ample room for spring action at the rear, the ends of the side members of the pressed steel frame are raised 3 1-2 inches. The steering gear is of the screw and nut type, consisting of two threads, or screws, a right and left-hand one, on the steering column, with integral nuts and pushers communicating the



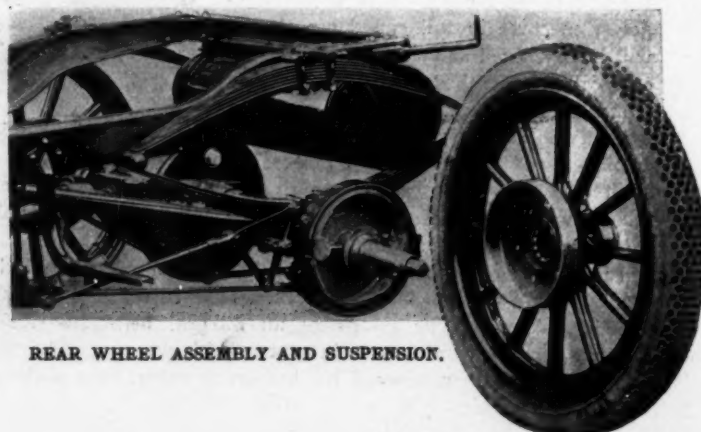
ATTRACTIVE LINES OF THE MOON ROADSTER AS SEEN FROM THE RIGHT HAND SIDE OF THE CAR.

size of the pinions employed. The countershaft, or lay shaft, is placed to the left of the line shaft and the arrangement of the pinions gives four forward speeds and reverse, working on the selective type of operation.

As the design of the car has been very thoroughly tried out in the past two years or more that it has been on the market, scarcely any changes were found necessary in the chassis for the coming season, the few that were made consisting of that refinement of detail suggested by experience with a large number of cars. There are numerous points about the construction which, unimportant in themselves, when taken as a whole, are strongly indicative of the painstaking attention that has been devoted to the evolution of the entire design. For instance, both front and rear wheels are dished, the knuckle pins being slightly inclined in the case of the forward pair, thus bringing the top ends of the pins nearer together than at the bottom and making the wheel spokes stand vertically, from the road surface to the hub. In the same manner the rear axle is given a certain amount of camber, to achieve the same end in the case of the rear wheels.

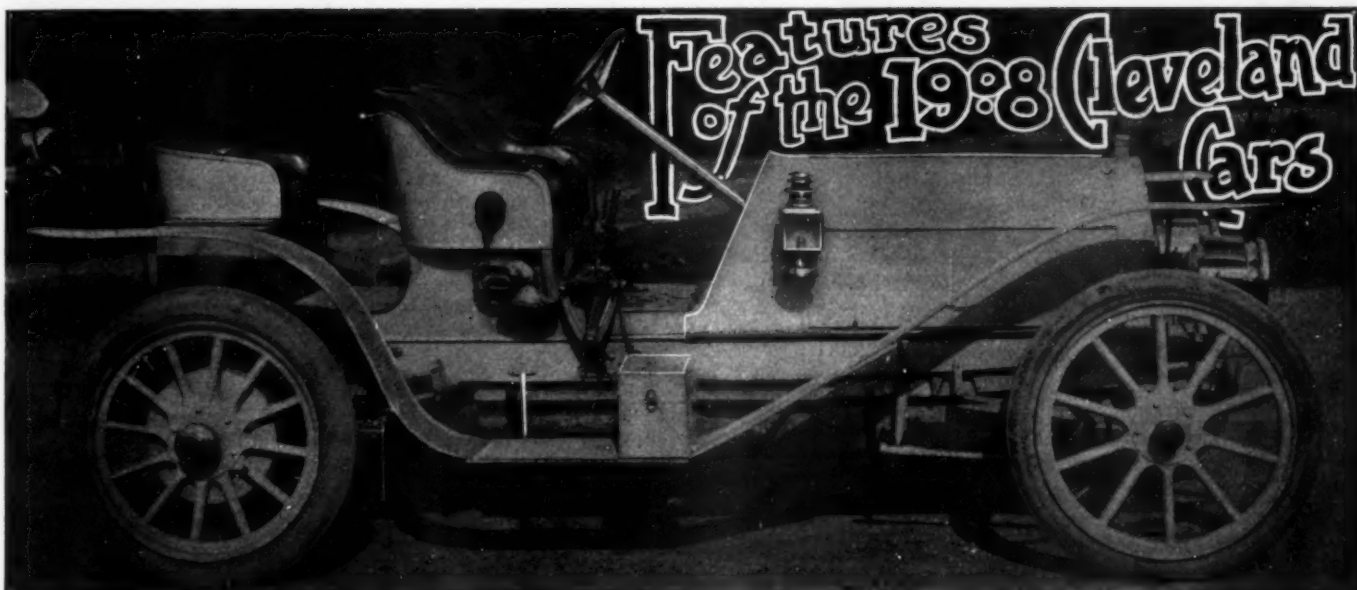
The front axle is one-piece steel drop forging of I-beam section, while the rear axle load-carrying member consists of a steel casting in the shape of the bevel-gear housing, into which steel tubes

motion set up by turning the wheel to the double-ended bell-crank member of the steering arm. The cross-connecting rod of the steering gear is placed behind the front axle in a protected position. Control is of the usual type, both spark and throttle levers being situated on a stationary segment above the steering wheel. The mahogany "front board" carries the eight sight-feeds of the oiler, but is otherwise practically unencumbered.



REAR WHEEL ASSEMBLY AND SUSPENSION.



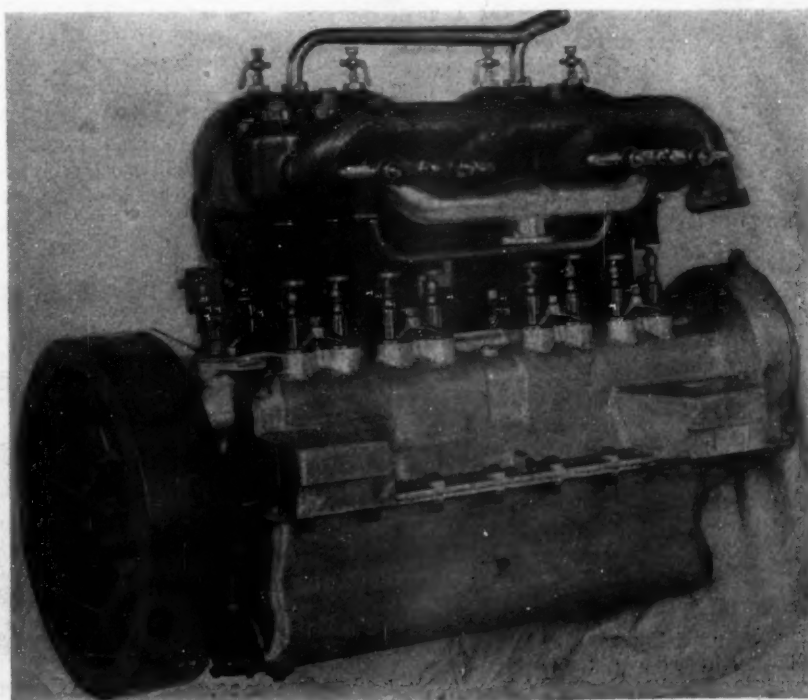


**N**UMEROUS special new features mark the Cleveland car for 1908 from its predecessor, prominent among them being the adoption of a multiple disk clutch, which, in accordance with the highest standards of practice in this respect, is housed together with the gear-set, thus making a unit of this important essential. This clutch consists of 52 steel plates, 1-16 inch thick, made of special high-carbon steel. They are stamped into a conoidal form, differing from a true cone in that the surface is slightly curved. This arrangement causes the plates to engage very gradually and when released, the spring of the material, aided by that of the curved portion, causes the plates to separate, regardless of the character of the lubricant employed, it being the claim of the makers, the Cleveland Motor Car Company, 1659 Broadway, New York City, that this clutch will disengage as readily when immersed in heavy oil or grease as when light oil is used. In actual service the same lubricant as is employed in the gear-set, consisting of one-half heavy oil and half grease, is employed for the clutch as well. The rockers for disengaging the clutch are provided with steel rollers at their ends, engagement of the clutch proper being effected by a heavy helical spring, of approximately 300 pounds tension, the latter being adjustable to suit varying conditions. This clutch is entirely self-contained and gives no end thrust except when disengaged, when the thrust of the spring is taken on F. & S. annular ball bearings of liberal size. The gear-set provides four forward speeds and the usual *marche arriere*, working on the selective principle of gear-changing, the lever being operated in an H-shaped sector. Though standard in this respect, a distinction is to be found in the fact that the direct drive is in the third speed, the fourth being an accelerated speed. This

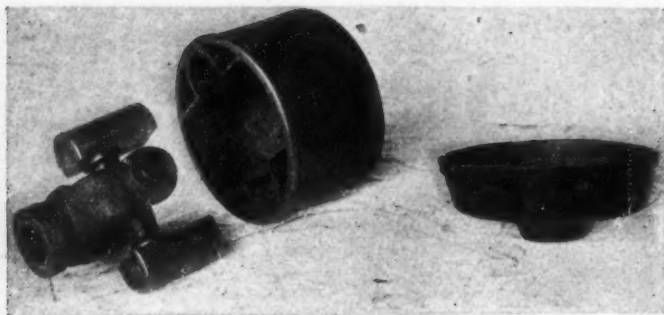
arrangement permits of almost constant use of the direct drive with a consequent saving of the gears, and also provides an extra high speed on occasion, when the propeller shaft can be made to run faster than the engine. Annular ball bearings are used throughout the gear-set, and the shafts are milled, forming four integral splines for the sliding members. Immediately behind the gear case is placed a 14-inch wheel provided with heavy ratchet teeth and a plunger pawl, this device constituting a convenient substitute for the sprag. The base of the pawl is an accurate sliding fit in a small cylinder, thus forming a dash pot. It is operated by a small button located on the footboard, but a slight pressure of the heel being sufficient to cause it to act.

A bevel type of differential is employed, using liberal size gears of five pitch, all being supported on annular ball bearings. An adjustment is provided so that the bevel pinion and its shaft can be moved slightly in a longitudinal direction, thus bringing the teeth into, or taking them out of mesh with the large driving bevel. In order to provide for this, the annular bearing in front of the bevel pinion is held against a collar on the bevel pinion shaft on one side, and a nut on this shaft at the other side, so

that if this bearing is moved in either direction the bevel pinion and shaft must move with it. On the exterior of the annular ball race are threads into which, or upon which, an outside band or collar is screwed. This collar cannot move backward or forward, as it fits into grooves in the rear-axle housing, so that by simply turning it on its threads the bearing is forced in either direction as desired. This collar is prevented from rotating and is retained rigidly in position by means of a tight-fitting yoke which presses upon it when bolted in position. It also bears on the outside annular ball-race,



VIEW OF WORKING SIDE OF THE NEW CLEVELAND MOTOR FOR 1908.

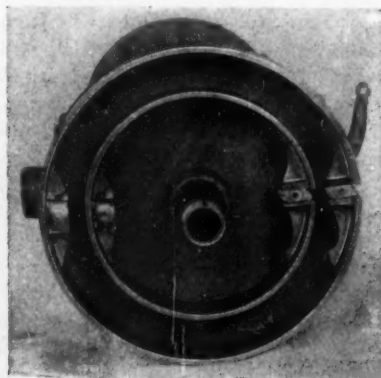


DETAILS OF ONE OF THE UNIVERSAL JOINTS.

thus clamping the combination rigidly in position, adjustment being made by merely loosening the yoke and turning the collar.

The rear axle is of the floating type, driving the wheels by means of lug clutches at the ends. The supporting housing or axle is well braced by means of a 5-8-inch truss rod, this being its dimension at the smallest section, increasing considerably at the portions where it is threaded for the turnbuckles—in fact, the liberal size of the parts used throughout the construction of the car is one of the distinctive features of the 1908 Cleveland. An I-beam torsion rod is employed and radius rods are also fitted, their rear ends being revolvably mounted upon split bronze bushings, which are clamped around the steel rear axle housing, thus concentrating all the wear on the bushings. The latter also serve for the swivel mounting of the rear spring seats. The front axle is a one-piece I-beam drop-forging, the steering knuckle pivots being mounted on ball bearings while the cross rod of the steering gear is placed behind the axle in a protected position. The steering gear is of the standard screw and nut type.

Brakes are both of the internal expanding type, in contrast with general practice in this respect, and differ further from the latter by the provision of a special double drum, as shown by the reproduction of a photograph in one of the accompanying illustrations. This provision should go far toward increasing the efficiency of the brakes by effectually preventing any tendency to overheating on long steep grades, where it is necessary to alternate from one to the other in order to hold the car, or where both



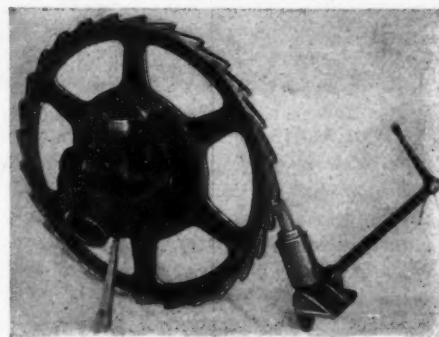
SHOWING THE SEPARATE BRAKE DRUMS.

are used together. The outer one of the two brakes is 16 inches in diameter by 3 inches face, thus providing an unusually liberal amount of friction surface. Both are of the metal-to-metal type, the drums being of pressed-steel construction, while the bands are manganese bronze, both being operated by a cam in the usual manner. A single-tree type of equalizer is employed on the foot brake, which is the outside band, the other, or emergency brake, being operated by the usual side hand lever. Pressed steel is also used in the construction of the muffler, which is provided with a cut-out operated by a foot button. At every point on the car where there is any movement grease cups are provided, while the brake rods and spring eyes are equipped with spring oilers. The muffler rod, sprag operating rod and brake rods are all so arranged that the pull on them is direct.

The motor is of the standard, four-cylinder, four-cycle, water-cooled type, the cylinders being cast in pairs. Two independent

systems of ignition are employed, both being of the high-tension type. A high-tension magneto is employed on the running side, while a single vibrating coil and distributor system constitute the reserve, current being supplied by a set of accumulators. Each system is independent throughout, as two sets of spark plugs are used, both being placed over the valves. All the accessories are driven from a special shaft, the rear end of which operates the pump and magneto, while a belt from a pulley at its other extremity drives the bronze-hub aluminum fan directly back of the radiator. A Schebler carbureter takes care of the essential of gas supply, being provided with gasoline from a 22-gallon copper tank placed under the seat so as to feed by gravity, a large strainer being interposed between the tank and carbureter. The tank filling hole is made six inches in diameter, so as not alone to facilitate replenishing it, but also to make possible its thorough cleaning out, the cap being held on by a removable yoke, instead of the usual screw fastening.

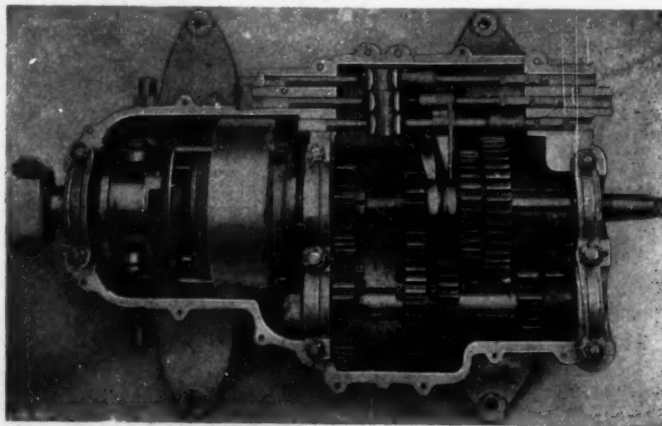
A special feature of the cardan shaft drive is the simple type of universal joint employed. One of these is illustrated in pieces in order to show the small number of parts forming its essentials, as well as their simplicity. These joints are inclosed in dust and oil-tight housings, the forward part of the housing having a spherical rear end over



DETAILS OF THE INGENIOUS SPRAG.

which the rear portion of the case fits, the latter being provided with an internal annular recess containing a strip of felt. This felt comes in contact with the spherical portion of the forward part of the case, thus making a dust-tight but flexible joint. The rear universal joint is so arranged that the driving effort is transmitted by the outer ends of the arms fitted with bronze shoes which are free to slide longitudinally in suitably shaped semi-circular grooves of considerable length in the outside casing, which is fixed to the bevel pinion shaft. The casing is of steel and has a long hub taper keyed to the integral bevel pinion shaft, the shaft pinion being supported both front and back by F. & S. annular ball bearings of liberal dimensions.

Another special feature of the car is the use of an aluminum steering wheel of large diameter, the arms being of aluminum, channel section and having a continuous, integral rim. The control levers operate on an aluminum sector, each lever being provided with a small hard rubber thumb button, automatically locking it when the hand is removed.



THE SPECIAL CONOIDAL CLUTCH AND GEAR SET.





COMPILERS E. R. MIXER AND EDITOR ROBERT BRUCE IN THE OFFICIAL AUTOMOBILE BLUE BOOK CAR, WHICH IS A THOMAS FLYER.

## TWENTY THOUSAND MILES THUS FAR BY THE BLUE BOOK CAR

THE automobile tourist who travels by "The Official A. A. A. Automobile Blue Book" during 1908 will find that the publishers have not been idle the past few months in revising many sections and writing up new territory, long neglected, that affords every temptation to those who enjoy good roads, whether they are traveling through the mountains or along the seashore.

In the last five months the compilers have prepared over 20,000 miles of route directions from data collected by personally covering every mile with the Blue Book car—which is a Thomas Flyer runabout—and taking the exact distances to the tenth of a mile for every turn, fork, or landmark along the road. The machine has been equipped with two reliable odometers, and there

should be no question in the tourist's mind as to how far he must travel before the next turn is made. He has the running distances for all points along the road where any information is needed.

A good share of time and work has been spent in the thinly settled sections—sections noted more for their beautiful scenery and climate than for population—where in encountering forks and turns definite information is always welcome and indispensable. Nearly the entire coast of New England has been skirted; the White mountains have been handled in a most careful way, covering every desirable road to the Canadian line; nearly all of the necessary routes in Massachusetts will be well described, even to the farthest point on Cape Cod—a section lately discovered to contain the finest automobile roads in the country.

Every mile in New Jersey territory, from the mountains in the north to Cape May in the south, will have new and exact running directions; the eastern edge of Pennsylvania has been

worked out, and many of the exits and entrances to Philadelphia carefully taken care of. The Hudson river routes will look different to the stranger who has ventured that way and always finds trouble in getting through on the right road. Everything has been thoroughly explored in that direction.

Long Island has been covered from one end to the other and from the north shore to the south shore on all important cross-roads. It will be taken care of in the coming edition in a far more detailed way than has ever been accomplished at any previous time.

Most of this data has been made during severe weather, but with constant plugging the task has been accomplished and the efforts will be well appreciated by those desiring good, reliable directions for 1908. The endorsements of high-class hotel and garage accommodations have been carried forward in the same careful manner that the Blue Book contained during 1907—a feature well appreciated by the tourist traveling in strange territory.

## ANOTHER OWNER WHOSE UPKEEP HAS BEEN ECONOMICAL

Editor THE AUTOMOBILE:

I notice in your issue of December 12, 1907, the detailed car expense account of B. N. C., of San Francisco, and it appeared so excessive that it impelled me to look up my own account, particularly because from the description of the car I suspect that it is of the same make as my own.

I received my 1907 model car about the middle of December, 1906, but on account of adjustments required before it was acceptable, and continuous rainy weather and mud, it was nearly two months before it had much use. It has been used on the eastern side of San Francisco bay and to the south, where the roads are good, no trip exceeding 125 miles per day, and a total to date of between 3,000 and 4,000 miles only.

I have stabled the car at home, and have looked after such minor repairs and adjustments as time and inclination would permit. Such work as putting on a trunk rack, muffler cut out and adjustments requiring considerable time in dismounting and reassembling has been sent to the shop.

My original tires, 32x4, are still in use, and the outer casings are not broken, showing only such cuts and wear as might be expected with careful use on fairly good roads. I have bought two extra inner tubes as a precaution. After following the advice to use plenty of oil, and wiping most of

it off the outside of the engine and connected parts, I settled down to my previous practice with a former runabout, and have found that the machine will do upwards of 300 miles per gallon, runs just as well and is much cleaner.

Gasoline consumption is not as satisfactory. I do not think that the carbureter is well adjusted in that particular, but the car performs well, and I imagine that any adjustment which would increase its mileage per gallon would be liable to decrease its efficiency.

My expense account to date is as follows:

Shop repairs, new additions and adjustments.....	\$79.75
Extras added to original equipment.....	45.45
Gasoline .....	91.40
Oil .....	10.00
Lights, carbide and coal oil.....	10.00
Two inner tire tubes.....	18.00
Repair of punctured outer tire case.....	6.50
	<hr/>
	\$261.10
Cr.: Two inner tubes of former car, at \$4.50.....	\$9.00
36 lbs. worn out casings of same, at \$0.08.....	2.88
	<hr/>
	\$11.88
	<hr/>
Total expense.....	\$249.22
SAN FRANCISCO, CAL.	G. H. S.

## ECONOMICAL MILEAGE BY TWO OWNERS.

More facts are daily coming to light of the economical upkeep of cars by enthusiastic owners. Some of these records are sent to manufacturers by customers, and Thomas B. Jeffery & Company, Kenosha, Wis., announce the receipt of two letters which show the possibilities of the situation where the average owner of an automobile is concerned. And this is just the point, for these expense accounts have not been the result of the expert superintendence of the trained factory man, but those of the autoist who, in many cases, had but a faint notion of what was under the bonnet of a car before he actually became the owner of one.

One from Walter A. Merrill, of Binghamton, N. Y., states that he has run his Rambler car 4,000 miles during the past year with a total repair bill, outside of a few punctures, of \$9.40. During the season he has made 273 trips and has never required assistance on the road. His letter states that he calls that "real economy."

J. A. Baughman, of Barberton, O., states that he owns a 1906 Rambler, Model 14, which he has run up to date 8,500 miles at a total repair expense of \$4.

## AUTOWAY IN WEST FOR SPEEDING.

WAUKEGAN, ILL., Jan. 9.—Automobile enthusiasts are much concerned in a persistent rumor that there is a project on foot to locate a costly speedway between this town and the Wisconsin State line. The alleged purpose is to hold auto events of a racing and speeding nature over a three-mile track built of concrete.

It is claimed that this project has been mooted since last October and the apparent secrecy with which it has been carried on was and is for the purpose of securing options on land at fair prices. It is now claimed that options covering over 500 acres have been secured, and it is expected that the scheme will be outlined at an early day.

The land on which the options have been taken lies in the path, as it were, of the famous Sheridan drive that ultimately will connect Chicago with Milwaukee. The driveway lays along the shore of Lake Michigan and now connects all of the North shore suburbs almost to Waukegan. It is rumored here that Eastern capital is back of the speedway project, but the names of the backers have not yet been made public.



## THIRD ANNUAL MEETING OF THE AUTO ENGINEERS

MORE than the usual amount of interest attached to the holding of the third annual meeting of the Society of Automobile Engineers, which took place during the afternoon and evening of Friday last, January 3, as the need for an organization of this character in the automobile field has been most strikingly manifested by its exceedingly rapid growth during the two years of its existence, which, from the outset, has been under disadvantageous conditions of a sufficiently serious nature to cause the immediate dissolution of any association in which the members were not genuinely interested and eager to come to its support. Probably the most convincing evidence of the demand there is for such an organization is to be found in the report of the membership committee, showing that the list of members has been increased by more than 50 per cent. during the past twelve-month, despite the fact that no organized effort has been carried out either to secure publicity or to enlist the interest of the technically skilled branch of the automobile fraternity as a whole.

### New Constitution and By-laws Proposed.

The afternoon session of the meeting was opened by President A. L. Riker, H. M. Swetland being appointed secretary *pro tem.* in the absence of E. T. Birdsall, secretary-treasurer. The minutes of the last meeting, which was held at Buffalo and Niagara Falls on July 30 and 31 last, and which included an inspection of the plants of the George N. Pierce Company, and the E. R. Thomas Company, having been read, the reports of the various standing committees were in order. Henry Hess, chairman of the committee appointed by President Riker at the summer meeting to revise the constitution of the society, reported that after carefully investigating the constitution and by-laws of several kindred organizations, his committee had come to the conclusion that the constitution of the American Society of Mechanical Engineers was the most carefully worked out, and was based on the results of a long existence and gradual expansion from small beginnings. "As it is hoped that this Society will also maintain as healthy a growth as its members may so far congratulate themselves upon," continued Mr. Hess, "your committee thought it could not do better than to follow very closely the Constitution, By-laws and Rules of the American Society of Mechanical Engineers, with, of course, such alterations and additions as the somewhat different objects of your Society rendered advisable."

Mr. Hess accompanied his report with a carefully prepared draft of the proposed constitution and by-laws founded on those of the American Society of Mechanical Engineers, with such alterations as the changed conditions and aims of the Society of Automobile Engineers required, and a resolution was passed instructing the secretary to have copies of the same printed and forwarded to the members for their approval or disapproval.

President Riker then called for the report of the committee headed by Mr. Schaeffers, which was appointed at the summer meeting, to come to an agreement with the Automobil Technische Gesellschaft, Berlin, for a mutual interchange of memberships, but in the absence of Mr. Schaeffers and the statement of his committee that the negotiations had not been concluded as yet, further action in the matter was deferred till the next meeting. Reading of the report of the treasurer was also deferred owing to the unavoidable absence of Mr. Birdsall. Chairman H. F. Donaldson of the Publication Committee reported on the activities of his committee during the past six months, which chiefly concerned the securing and publication of papers to be read at the regular meetings, a duty which, under the new constitution, will be devolved upon two separate committees. He was followed by H. M. Swetland, chairman of the Entertainment Committee. At the last meeting it was decided to make the

membership committee a committee of the whole, so that no formal report was prepared, but the successful outcome of the plan was apparent in the fact that during the past year the membership of the society has been increased by over 50 per cent.

The annual election was then held, Thomas J. Fay, New York, being unanimously elected president; E. T. Birdsall, Rochester, N. Y., second vice-president, succeeding John T. Wilkinson, and Henry Hess, Philadelphia, succeeding Mr. Birdsall, formerly secretary-treasurer, the constitution of the society prohibiting the holding of the same office for more than one term. F. J. Newman, Chicago, and Russell Huff, Detroit, were elected managers for three years, vice H. Vanderbeek and A. H. Whiting, whose terms expired. The other officers of the Society are Henry Ford, Detroit, first vice-president, and L. T. Gibbs, H. M. Swetland, H. P. Maxim and W. H. Alden, managers. President Fay appointed Charles B. Hayward as secretary, succeeding E. T. Birdsall.

Following the business meeting, papers on various subjects were read, including "Automobile Hub Bearings," by Henry Hess; "Some notes on Self-Aligning Taper Bearings," by H. W. Alden; "Nature Hard Gears," by Thos. J. Fay, and "Usually Unobserved Refinements of Automobile Construction," by J. Magee Ellsworth and Thos. J. Fay. Most of the papers were accompanied by numerous drawings illustrating the points brought out by their authors, Mr. Hess also accompanying his by sample bearings taken from automobile rear wheel hubs, showing the destructive effect of rust and grit on this important part of the car. Each one of the papers brought forth considerable discussion and numerous interesting points were raised.

Upon the conclusion of the discussion following the reading of the last paper, the afternoon session adjourned to reconvene at the annual dinner held at the New Grand in the evening. This was in turn followed by a second session of the business meeting, during the course of which numerous important matters came for discussion.

### Next Meeting at Boston in March.

It being the consensus of opinion of the members present that the society should meet more frequently, it was decided that in future quarterly meetings should be held, and the importance of the Boston show being realized, a resolution to the effect that the next quarterly date be anticipated somewhat in order to bring the meeting during the course of that show, was unanimously adopted. The point was raised as to whether formal papers should be prepared and read at these quarterly sessions, or whether topics for discussion should simply be suggested in advance, and discussed informally at the meeting.

It was decided that papers should be prepared, and a number of the members, well known in the automobile world, volunteered to write on various subjects, among those suggested being "Materials and Design of Automobile Crankshafts"; "Die-forgings for Automobile Work"; "The use of Alternating Current Rectifiers"; "Improvement of the Two-cycle Motor"; "Drawing Room Equipment for Automobile Factories," and others of an equally interesting nature, many of which are to be prepared in time for reading at the Boston meeting, the secretary being instructed to print and distribute these papers in advance of the date.

The following were present: A. L. Riker, Henry Hess, H. F. Donaldson, J. M. Magee, Joseph Tracy, M. C. Krarup, H. M. Swetland, J. A. Crowley, Thos. J. Fay, H. L. Towle, W. P. Kennedy, A. H. Whiting, H. H. Brown, H. P. Moorrees, J. A. Anglada, R. W. Funk, R. Newton, Thos. Zimmerman, P. M. Heldt, A. C. Bergman, Wm. Hasselkus, A. H. Ehle, A. L. McMurtry, B. D. Gray, H. M. Crane, E. F. Schnuck, M. R. Hutchinson, and C. B. Hayward.



Vol. XVIII

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### A Conflict of State and Municipal Legislation.

In the matter of legislation, New York State has long been looked upon as one of the most progressive communities in the Union, and its lead in dealing with the legal side of the many problems of commercial and domestic relations has been followed by a large number of the other States. The same thing is true where automobile legislation is concerned, but the recent decision of the Court of Appeals, in the case brought to test New York City's much discussed ordinance, would appear to place it in quite a different light. Under the Motor Vehicle law of New York, local ordinances are prohibited except where they impose a uniform speed limit of ten miles an hour on all vehicular traffic, and signs are posted to that effect.

Despite the fact that the law has not been complied with in the latter respect, the court of last resort has held that the ordinance is valid, but to support this contention it has been necessary to make the State law begin where the city ordinance leaves off. In other words, the autoist who exceeds the archaic eight-miles-an-hour municipal restriction, but in doing so does not surpass the ten-miles-an-hour limit of the State law, is amenable under the former and the maximum penalty incurred cannot exceed \$10. If he break both by driving more than ten miles an hour, then the State law becomes operative.

Despite the fact that no vehicle capable of exceeding it ever keeps within the absurd limit nominally imposed by the city authorities, something which practically renders the present municipal ordinance void despite the court's decision to the con-

trary, such a situation can only lead to confusion and dissatisfaction. While the recognition of New York's ordinance, without the condition attached to it by the court's decision, might be desirable from several points of view, if its upholding were to precipitate a flood of local ordinances throughout the State, the privileges gained under it would be dearly bought. The endless annoyances arising out of the pernicious activity of village councilmen brought about the general prohibition of local ordinances which is now a feature of most State legislation. Of what value will uniform State laws be if they are such only in name?



### Singular Phase of the Desire for Speed.

With the unprecedented capacity of the automobile for speed, and the fact that it represents the culmination of human invention to satisfy the innate passion of the average individual to be able to travel quickly and at the same time control his own mode of getting over the ground, it is not strange that the ways in which the latter has been manifested have been numerous. Not the least strange of these is the desire of the autoist whose circumstances limit him to the possession of a low-powered car to make it a vehicle capable of traveling at a far higher rate of speed than its creator ever intended it for.

After having enjoyed the use of such a vehicle for a season or more, its efficiency is not what it was originally and its owner's desire for greater speed and hill-climbing power has grown in inverse ratio to the car's falling off. More power and more speed is his demand, and to satisfy it the expedients of increasing the compression of the motor and of raising the gear ratio of the car seem to be those most frequently thought of. Of the two, judging from the number of letters received from correspondents, the latter appears to be the more popular, and the plans for increasing the speed of the car do not, in the majority of instances, include any provision for making a corresponding increase in its power. It should be borne in mind that speed is but one of the manifestations of power and its attainment involves other factors than that of the relative number of revolutions of the engine and road wheels, and the fact that every increase in speed shortens the life of every part of the car should not be overlooked. In most cases restoring the car to its original degree of efficiency will suffice to accomplish all that can be safely recommended in this direction, and the practice of tinkering a 10-horsepower runabout in an attempt to make it the equal of a 25-horsepower car is to be deprecated.



### Brake Improvement on the Cars for 1908.

While it is with pardonable pride that the American manufacturer regards himself and his product as having progressed beyond the influence of foreign standards, where betterment is concerned, the unprejudiced observer cannot but admit that the builder of European cars pays considerably more attention to the highly important essential of brakes than does his competitor in this country. It is a practice that the foreign builder has consistently adhered to for several years past, and while it may be considered that, in some instances, the factor of safety provided for has reached extremes, exceeding the requirements in this direction is more commendable than falling short of them.

American makers have practically abandoned the transmission brake where the 1908 cars are concerned, and inspection of the latter also bring to light the fact that more attention has been paid to the matter of the dimensions of the brake bands and drums, now almost universally to be found on the driving wheels, where they belong. Separating the friction surfaces against which the two brakes bear by making the drum double is also a most commendable feature, as in removing the heating influence of one from the other, this being a disadvantage where an external contracting and an internal expanding brake bear against opposite faces of the periphery of the same drum, both are made more efficient and at the same time entirely independent.



## JANUARY DATE FOR NEXT A. L. A. M. SHOW IN GARDEN

**M**OST important of the decisions arrived at by the board of managers of the Association of Licensed Automobile Manufacturers at its meeting at the association's offices, 7 East Forty-second street, New York City, Tuesday, January 7, was the resolution adopted setting the time for the next annual show for January, 1909, in Madison Square Garden. This is practically a return to original show dates, and is an indication that the November-December dates of the 1907 show were not as advantageous as had been expected. Colonel George Pope, chairman of the show committee, in his report stated that the recent show had been the most successful of any yet held, but advocated a return to the January date as more suitable to recognized business conditions. Optimistic forecasts regarding business prospects for next season were made by several members of the Association.

Persistent rumors were current prior to and during the prolonged session of dissensions within the association, and of an intention to reorganize. Prominent members emphatically deny these reports, and General Manager M. J. Budlong stated that the same progressive policy would be

maintained in the prosecution of infringers of the Selden patent, and that the general policy of the association would be carried out as in the past. The following members were present at the meeting:

J. S. Clarke, Autocar Company; W. E. Metzger, Cadillac Motor Car Company; H. S. Hart, Corbin Motor Company; H. S. Lloyd, Electric Vehicle Company; B. A. Becker, Elmore Manufacturing Company; H. H. Franklin, H. H. Franklin Manufacturing Company; C. H. Haynes, Haynes Automobile Company; E. R. Hewitt, Hewitt Motor Company; E. H. Cutler, Knox Automobile Company; S. T. Davis, Jr., Locomobile Company; H. Lozier, Lozier Motor Company; C. W. Matheson, Matheson Motor Car Company; V. M. Gunderson, Northern Motor Car Company; F. L. Smith, Olds Motor Works; H. B. Joy, Packard Motor Car Company; L. H. Kittredge, Peerless Motor Car Company; Charles Clifton, George N. Pierce Company; A. L. Pope, Pope Manufacturing Company; George Pope, Pope Motor Car Company; E. D. Shurmer, Royal Motor Car Company; G. E. Mitchell, Alden Sampson, second; R. H. Salmans, Selden Motor Company; E. McEwen, F. B. Stearns Company; C. C. Hildebrand, Stevens-Duryea Company; H. H. Eames, Studebaker Automobile Company; E. C. Morse, E. R. Thomas Motor Company; E. P. Chalfonte, Waltham Manufacturing Company, and T. Henderson, Winton Motor Carriage Company.

## MASSACHUSETTS MAY HAVE GRADUATED REGISTRATION

**B**OSTON, Jan. 6.—Governor Guild of Massachusetts apparently is not wholly satisfied with what the Legislature did last year in the way of putting the cost of the maintenance of the State roads upon the automobilists. In his inaugural address, delivered at the assembling of the Legislature for 1908, this week, he again devoted some space to a consideration of the question of automobiles and the roads and he again recommends that a system of graduated registration fees be put into force. The Governor also gets after the automobilists from outside the State, thousands of whom come here every year and use the improved roads without contributing anything for their repair or maintenance. That some legislation in the form of a measure for a graduated registration fee will be presented at this term of the Legislature there is little doubt, for members

of the Senate are still somewhat disgruntled at the defeat which they received at the hands of the House last year, when a deadlock was broken in the last days of the session by the Senate abandoning its bill for a graduated registration fee and permitting the House bill for a flat annual fee to pass.

Local owners of cars undoubtedly will oppose a graduated fee bill or any other change, because they believe that much harm is done by continually tinkering with the law, and that the measure passed last year should be given a more thorough trial before it is abandoned. They believe also that more inequalities would arise from the enforcement of a graduated fee than from the present flat fee system. Any proposition to put more burdens upon the tourist will be opposed by the many citizens interested in the lucrative summer resort business of this State.

## MOTORING MAYOR OF NEW YORK RECOMMENDS WISELY

**B**Y protesting against the exhaust cut-out, the use of sirens, smoky exhausts, and acetylene searchlights within the built-up portion of the city, Mayor McClellan of New York City has taken a step which will be approved by right-minded autoists.

It was in his annual message to the Board of Aldermen that the Mayor put forth his view on the control of automobilists while within the city. After pointing out that some provision should be made for licensing all sightseeing automobiles, which at present pay no fee whatever to the city, the Mayor protested against the use of the siren within the city limits on all automobiles other than those connected with the Fire Department. His other recommendations were that all automobiles should be equipped with adequate mufflers, which should never be cut out within the limits of the built-up portions of the city. That, ex-

cept for the first ten seconds after starting the engine, no smoke shall be allowed to come out of the exhaust pipe. It is wholly unnecessary and is simply an evidence of carelessness or incompetence. That the use of acetylene headlights within the built-up portions of the city should be prohibited.

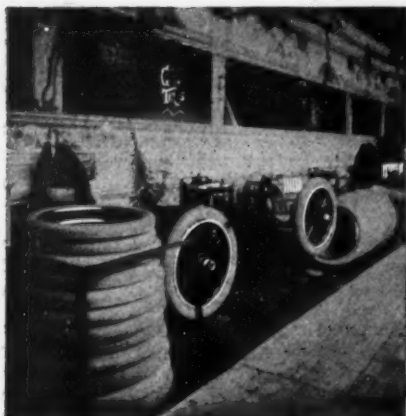
If judiciously put into force, the regulations cannot be otherwise than beneficial to all users of the road, not excluding automobilists. Their practicability has been conclusively proved in European cities, where all the regulations have been in force for several years. The only case in which any hardship might occur would be in suppressing the smoke nuisance. It is here that the police ought to act discriminately. As to the other proposed regulations, they could not be applied too rigorously.

### A. A. A. EXECUTIVE COMMITTEE HOLDS SESSION.

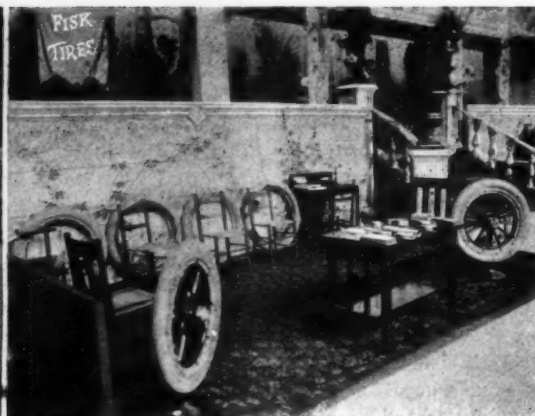
A meeting of the executive committee of the board of directors of the American Automobile Association was held Tuesday afternoon, January 7, at Association headquarters, New York City, President W. H. Hotchkiss presiding. Only routine Association business was considered.

### HOME HONORS FOR PRES. WM. H. HOTCHKISS.

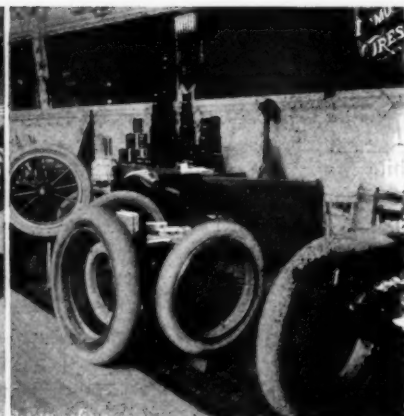
BUFFALO, N. Y., Jan. 6.—President William H. Hotchkiss of the American Automobile Association last week was elected president of the Erie County Bar Association, which gives an indication of the home appreciation of the energetic president of the national automobile organization.



AT THE GOODRICH STAND.



WHERE THE FISK PRODUCTS WERE ON VIEW.



DIAMOND TIRES WERE PLENTIFUL.

## IMPORTERS EXPRESS SATISFACTION WITH SHOW RESULTS

**S**ATISFACTION as the result of the week's efforts was expressed everywhere on the ground floor of Madison Square Garden when the Importers' Automobile Salon closed its doors and turned out the lights late on Saturday night last. Without exception, the importers of foreign cars declare good business was done, that prospects are bright, and that they have nothing but praise for the experimental Garden show.

Up in the gallery rather a different tune was hummed, the keynote of which was not altogether joyous. Thin attendance, though it may be everything that one can desire in the matter of quality, cannot make up for quantity when it comes to selling articles of common utility retailing at a low figure. "Altogether we have laid down about fifteen hundred dollars during the week," said the manager of one of the largest accessory stands, "and have very little to show in return for it. The people we expected to see have not responded to our invitations, and though there may have been plenty of car buyers we require the thousands who cannot purchase a car every few months but have always some money to spend on useful accessories and appliances."

### Mr. Mabley Says There'll Be Another.

How it looked through official eyes was told by C. R. Mabley, general manager and secretary of the show committee, in a talk to THE AUTOMOBILE representative. "We have every reason to be satisfied with the Importers' show. I am rather sorry for the accessory men, for they have not done the business they expected to do; but every car exhibitor records good sales and excellent prospects for the coming season.

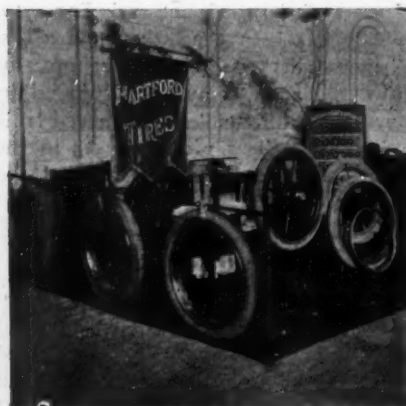
"Is the popular estimate of \$60,000 as expenses exaggerated?"

"Well, \$50,000 will not be far off the exact figure. Even apart from gate receipts, our show income is sufficient to pay all ex-

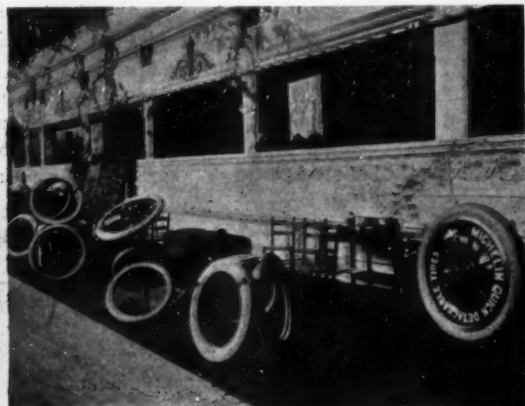
penses in connection with the exhibition, and when we close down we shall have, if not a balance in hand, at any rate a square account. From many standpoints it is a pity that there should be three different automobile exhibitions in New York, but there has been nothing in this exhibition to dissuade us from holding a second independent Importers' show next year on similar lines."

André Massenat, chairman of the show committee, and head of the Panhard & Levassor agency, said: "The show has been an unqualified success. Attendance has not been as high as we expected it to be, but we have had the right class of people, people who came with the avowed intention of buying cars, and did buy. I have assured myself by personal inquiries of every car exhibitor that good business has been done. As to the accessory exhibitors, I have only come in contact with two or three of them, and consequently cannot state what their impressions are. Everywhere we have been congratulated on the artistic arrangement of the exhibition and the practical placing of the cars and chassis in such a way that visitors could conveniently examine them in every detail, it being distinctive of this show that the majority of those attending it were connoisseurs of automobiles, who would not have been satisfied with a crowded group of cars. In principle it is already decided that an independent Importers' show shall be held next year. As to what lines it will take, whether it will be held here or elsewhere, cannot be determined at such an early date, but in principle we are decided to again run our own show."

Paul Lacroix, manager of Renault Frères selling branch: "Decorations and general display have made this show the finest spectacular automobile event New York has ever seen. From a business standpoint we have found it the best show in which we have participated. Attendance has not been large, it is true, but



WHERE THE HARTFORDS SHOWED.



TIRES AND RIMS AT THE MICHELIN STAND

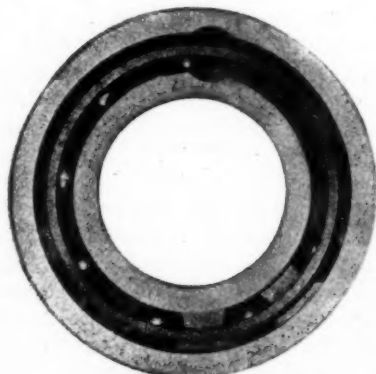


AT THE PENNSYLVANIA EXHIBIT.



we did not want persons interested in \$900 cars, for none of us attempt to supply such an article. People interested in high-class automobiles, able and willing to buy them, were desired, and we have had them in sufficient quantities to satisfy everybody. From our own business standpoint there is nothing but praise for the show, and our prospects for the year are so good that, in addition to an extended Eastern trade, we have made arrangements for direct Renault representation in the West, notably in Chicago and San Francisco."

Percy Owen, agent for the Bianchi car: "When this show was proposed we conservatively took a small space, believing that it would be sufficient for our needs. I regret now that we did not secure the maximum space allowed, for business results, by which I mean actual sales and not merely inquiries, have been far above expectations. To me the show has proved not only that there is a real interest in high-class foreign cars, but that a trade show is a much more successful proposition than the big national displays. At the latter you attract crowds of idlers with no other object than to see the sights and collect catalogues, only to throw them away. Here the idle, uninterested visitor has been conspicuous by his absence; those who came entered the show with a view to examining the cars preparatory to buying. One of the lessons which it has taught me is that importers should maintain a permanent exhibition, naturally planned on a more economical



R. L. V. BALL BEARING.

Motor Mart naturally suggests itself as a central exhibition hall."

M. Neubauer (Delaunay-Belleville): "I believe I am correct in stating that the volume of business at this show has been equal to that of either the A. L. A. M. exhibit or the independent exhibition at Grand Central Palace. We have not sold the same number of cars, but all our sales having been of high-class and high-priced vehicles I believe that their total will form a record for this season's New York shows. Our own feeling is one of complete satisfaction. No mention of future plans has been made to me, but I see no reason whatever why we should not repeat the Importers' show next year."

#### Some New Things in the Accessory Division.

At the end of a series of automobile shows, in one or more of which all the numerous accessory makers have taken part, it was not to be expected that there would be a very fertile crop of novelties in appliances for use on or around automobiles. Naturally, where any particular novelty had been produced in the interval between last season and the present period of shows, it was endeavored to procure it in time for the initial exposition, and thus obtain the maximum of publicity. It is for this reason that the accessory stands at the Importers' show on the whole presented well-tried and standard lines, or novelties that were no longer entirely novel.

There were a few exceptions, either of things that appeared to have been overlooked in previous exhibitions or for some reason or other only turned up at the end of the show season. At the Bianchi stand M. Bousquet, European selling agent for the Bianchi

car, showed an air pump and self-starter designed to be fitted to any automobile. The compressor consisted of an air pump designed to be driven off the main shaft, or any other convenient position. For use as a tire pump no other connection would be necessary than a length of tubing sufficiently long to lead to any of the wheels. When the pump was desired as a self-starter, it was used to compress air into a tank from which it could be admitted to the cylinders through a distribution valve timed off the camshaft. The inlet device had been designed on simple lines.



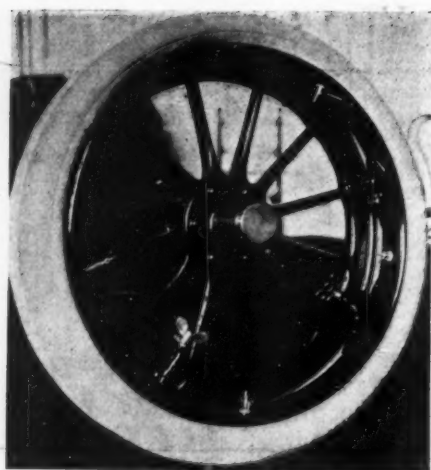
A TABLOID MEDICINE CHEST.

A better known automatic tire inflator, recently introduced to America, was the Delpuch, consisting of a compact cast-steel cylinder with supports, intended to be fixed in such a position on the car that the sliding pinion on its crankshaft could mesh with a toothed wheel on the driving shaft of the car. Generally between the clutch and the gearbox is found to be the most suitable position, though where no length of shaft is available here any other position can be selected. The inventors declare that no car has yet been found on which it could not be fitted. To put the pump into operation all that is necessary is to slip the sliding pinion into mesh, this being easily done by a command brought up to the dashboard. The automatic inlet valve is fixed in the piston head and the outlet valve in the cylinder head. A manometer and a rubber pipe completes the equipment. For work in garages a larger pump is made, with a water-cooled cylinder.

Léon Rubay's new production was the Gillett-Lehmann gasoline economizer, which, after considerable success in Europe, has been introduced to the United States. Claims made for the device are a saving in consumption of gasoline, increased power, and the avoidance of offensive exhaust gases. It consists of an adjustable air valve or plug screwed down to the top of the float chamber and connected with the small-bore tubes to the induction pipe, one attached on the engine side of the throttle and the other on the jet side. These are known as the balance pipes. The pressures on either side of the throttle are always varying with every movement of the throttle, but as both small pipes lead to the same small chamber in the economizer a mean pressure is created there, and it is thus that it exerts its economizing influ-



HEAVY DISMOUNTABLE TIRE BEING FIXED ON ITS RIMLESS WHEEL.



HOW THE STEPNEY WHEEL IS FITTED.

around the balls after they were in proper position in the bearing, but sufficiently free to allow them to revolve freely. The ring serves the double purpose of properly spacing the balls with a cage that is indestructible and assists in the proper distribution of the lubricant.

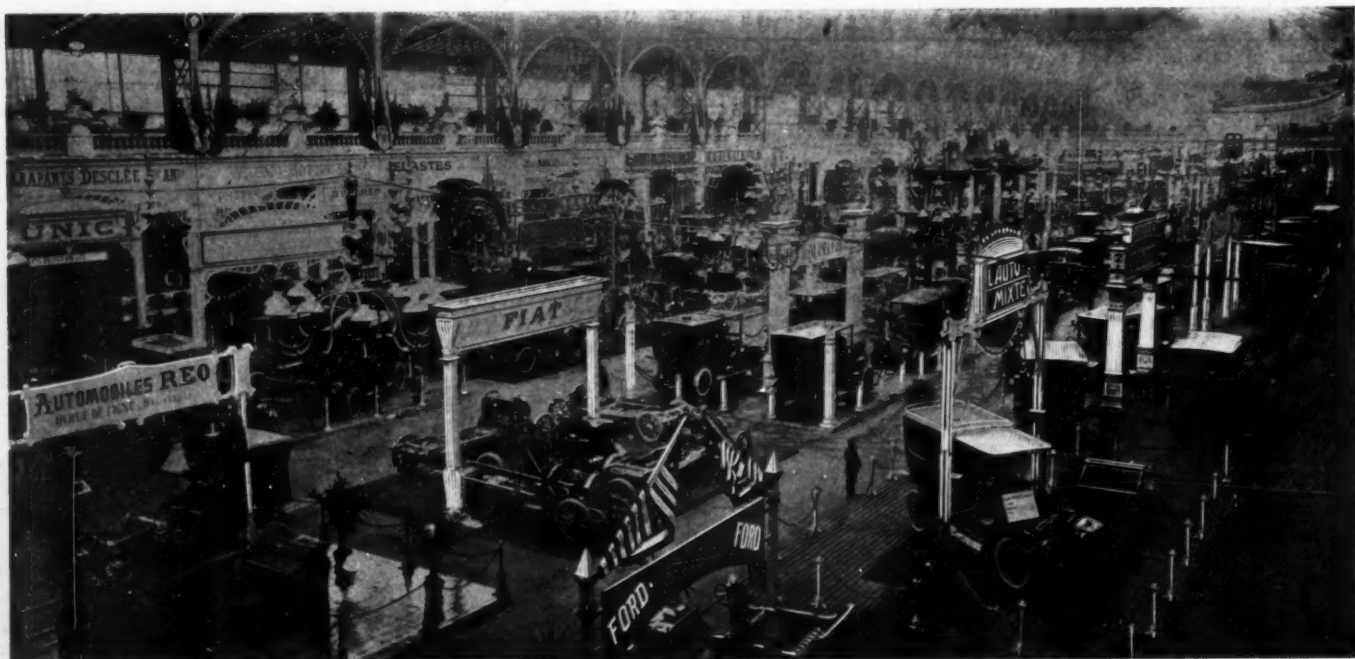
A medicine chest is generally too bulky an article to find a position on an automobile, much as its presence would be appreciated at certain times. At the booth of the Auto Supply Company the want was met in what appeared to be a perfect manner, a compact japanned metal box, no larger than the road book many an automobilist carries along with him, containing no fewer than twenty-five articles intended for first aid in the absence of a medical man or before his arrival. Just as an indication of how space was economized, a supply of cotton wool, which ordinarily would alone have filled the box, was compressed into a small package a couple of inches in length. Practically everything necessary for the treatment of minor accidents, burns or cuts was to be found in the case. At the same stand tea was treated in a similar manner, being compressed into small tablets, two of which would furnish sufficient beverage for about three people. Sugar is supplied in the form of "Saxin," declared to be six hundred times sweeter than the commonly employed article, and of course compact in the same degree.

ence. It is claimed that every type of automobile can be fitted with the device without difficulty.

A new type of ball bearing introduced from Europe formed one of the attractions at the stand of the Auto Supply Company. To get away from the objectionable breakage of the cage holding the balls in position, the R. I. V. bearing has been made with an anti-friction ring cast

The only detachable rim on exhibition which had not been seen at previous shows was to be found at the stand of the Healy Leather Tire Company. Distinctive in the device is the absence of a wooden, steel-bound felloe, making a double rim, as employed on nearly every other make. The dismantlable rim is attached by means of a clip at the end of each spoke. Thus by the suppression of the wooden felloe and one steel rim the Healy device is as light, if not slightly lighter than the ordinary type of fixed wheel. Conversion of an ordinary wheel to a dismantlable is a simple matter and one costing but little. The metal rim is taken off and retained, the wooden felloe knocked off and discarded, then the end of each spoke cut down and turned to receive a steel socket with a couple of case-hardened lips, one fixed, the other attached by a nut and bolt, but not entirely dismantlable. It will be immediately noticed that the ordinary lugs and valve can be retained, an advantage which will be appreciated by the practical automobilist. In addition to the lip at the end of each spoke binding the face of the rim, there is the usual expanding motion on the entire rim, which should theoretically make a perfectly safe unit. According to the statement of the manufacturer, experiments carried on throughout the summer have proved the dismantlable wheel to be more than equal to the strains of a heavy car over the worst roads.

Though a newcomer to America, the Stepney wheel, shown at the Garden, is no longer a stranger, its own merits having brought it quickly before the public during the few months it has been on this side of the Atlantic. In brief, it consists of a metal rim without felloe, spokes, or hub, on which is carried an inflated tire. When not in use the wheel is carried on the side of the car in exactly the same manner as a spare shoe. On a puncture occurring, the deflated tire is left undisturbed, and the Stepney attached to the wheel by means of three or four clips—according to size of wheel—fitting over the clincher lip of the permanent wheel. Two of the clips are rigid and two are adjustable by thumb nuts, all that is necessary to secure the wheel being to get the fixed clips in position and tighten up on the adjustable ones, the use of a jack under ordinary circumstances being superfluous. To prevent creeping of the Stepney around the fixed wheel, a metal lip on the smaller sizes engages one of the spokes. For the largest wheels a couple of leather straps are passed around the clip and a spoke. No tools whatever are required for mounting the wheel, the time occupied is but a few minutes, and the Stepney can be run hundreds of miles with safety.



BRUSSELS SEVENTH ANNUAL AUTO SHOW, SECOND ONLY TO PARIS IN IMPORTANCE, HAD FORD AND REO IN FOREGROUND.



## SEVEN DISTINCT EVENTS FOR ORMOND-DAYTONA CARNIVAL

WITH the addition of a stock chassis race to the program of the Ormond-Daytona speed carnival, from March 2 to 7, there are now seven distinct events for the world's fastest straightaway track. According to the entry blank issued by the Contest Committee of the Automobile Club of America, the stock chassis event will be five times round the 32-mile course, giving a total distance of 160 miles, and will be eligible to any American or foreign chassis, the maker of which shall have manufactured and delivered, or be ready to deliver before February 15, 1908, ten chassis similar in every respect to the one entered. No restrictions are placed on the body, other than that provision must be made for two persons and that a mechanic must ride along with the driver. Total piston area has been limited to 103.87 square inches, which will admit the equivalent of a four-cylinder engine having a bore of 5 3-4 inches. The prizes in the stock chassis event are a silver cup to contestants finishing first and second; entrance fee is \$100.

All other events are announced to be run under Vanderbilt Cup race conditions, limiting the weight of the car to 2,424 pounds. The center of attraction should be in the contest for the Automobile Club of America Cup, nine times round the course, or 288 miles, in which event some of the cars built for the last Vanderbilt Cup race should participate. Event No. 2 is a four-lap race for gentlemen amateur drivers, the trophy being a silver cup.

In the 100-mile race for the Minneapolis International Championship Trophy, won successively by a Napier car entered by S. F. Edge and by E. B. Blakely on an American Mercedes, entrance fee has been fixed at \$50. In this event, as well as in

the other long-distance races, the referee shall have power to make the starts as he may deem proper should entries be large.

Three short-distance events, for the Sir Thomas Dewar Trophy, the Two-Mile-a-Minute Trophy, and mile and kilometer records can only be entered by cars which have participated in the long-distance races, or accomplished a distance of 100 miles at an average of 60 miles an hour.

All events will be conducted under the Racing Rules of the American Automobile Association, over a 16-mile straightaway with loops at each end, affording a circuit of approximately 32 miles. As far as possible starts will be made at the clubhouse of the Florida East Coast Automobile Association, where the grand stand and officials will be located; the exact time of starting to depend on the tide and condition of the beach. The rule requiring contestants to be in the enclosure designed for them at least thirty minutes before the start of their race will be strictly enforced. All events, declares the official entry form, will be confined to white male drivers eighteen years of age or over. Entries, which should be addressed to Robert Lee Morrell, chairman of the Contest Committee of the Automobile Club of America, will be received until midnight on February 15.

Chicago Automobile Club's first entry for the Florida carnival is announced as G. F. Sulzberger's six-cylinder Stearns, which carried off the speed laurels in the Harlem track races last October. It is intended by the Racing Committee of the Chicago Club to organize a special train from the Windy City to Ormond in connection with the races. Chairman Gregory, Joseph F. Gunther, and Walden W. Shaw have charge of the arrangements. A big Western delegation is expected.

## THREE MORE BRITISH ENTRIES FOR FRENCH GRAND PRIX

PARIS, Jan. 1.—England is coming out stronger for racing next season than was generally expected, for in addition to Ariel, already officially promised for the Grand Prix, Weigel has this week sent a letter in which he declares that in six weeks he will be over in Paris to show off his racers for the Blue Ribbon of the automobile world. Weigel is England's plucky but unlucky aspirant for speed honors who last year built a couple of eight-cylinder racers—which, by the bye, he now calls touring cars—and received as his reward a condemnation to one month in prison, without the option of a fine, for exceeding the speed limit. Naturally a protest was made, Weigel maintaining that the police had got mixed up on the cars, that his own machine had a slipping clutch and could not get on at all, and execution was suspended while the legal machinery went into operation.

The three machines for next year's race will have four, not eight, cylinders, bore being the maximum of 155 millimeters. What other features they will possess Weigel fails to say, except that they will, naturally, be marvelously fast and give the Frenchmen, Italians, Germans and Belgians a stern chase.

No decision has been arrived at regarding the choice of a circuit, Dieppe standing favorite, but half a dozen other districts are doing their best to attract the favorable consideration of the Racing Board. The suggestion has been put before the committee that if the Dieppe course is selected the race should be held in the opposite direction, the cars traveling in the same way as the hands of a clock, and that the tire and gasoline stations be placed opposite the grandstand, as was done so successfully in the first Grand Prix race on the Sarthe course.

## SPECIAL CASH PRIZES FOR THE WESTCHESTER RACE

TWO certified checks of the value of \$750 and \$500 have been sent to Chairman Robert Lee Morrell as special prizes in the race for the Briarcliff Cup, planned to be held over a Westchester County, N. Y., course in the spring. The larger amount came from Joseph Gilbert, American manager for Continental tires, with a request that \$500 should go to the driver of the first car using Continental tires, and \$250 to the driver of the second car similarly equipped. Alexander Dow's check for \$500 is to be used as a cash prize to the driver finishing first with an equipment of Dow non-deflation inner tubes.

A knotty question confronts the Race Committee, as the result of Mrs. A. N. Cuneo's decision to enter the stock chassis race with a 45-50-horsepower Rainier, which she has recently

purchased. Thomas F. Moore is reported to have replied that he would personally like to accept the \$1,000, but that he has misgivings as to what his committee would say on the matter. Should the committee make up its mind that the lady's entry shall be accepted on the undisputed ability of the applicant to handle a car in a speed contest, then the check will be taken and the anger of the ungallant ones borne bravely. Meanwhile the secretary is waiting, with a blank sheet before him, to record the names of those itching to hand over a thousand-dollar note for the privilege of contesting the Briarcliff Trophy. When thirty cars have been received the lid will be put down tight, for the committee has decided that it will only accept one car for each mile of the course, and will make no further concession.

## NEW YORK'S LEGAL AUTOMOBILE SITUATION CONFUSED

ALBANY, N. Y., Jan. 6.—Henceforth the lot of the autoist in New York City will be more interesting in that he may have an opportunity to choose under which law he wishes to be apprehended for violating the speed limit. If he drives more than eight miles an hour, but less than ten, it is then the duty of the first policeman who sees him to take him into custody on the charge of having violated the municipal ordinance, for which the maximum penalty is a \$10 fine. If his car happens to go eleven miles an hour, the same policeman may take him in, in the same manner, on the charge of having violated the Motor Vehicle law, under which the penalty may be anything up to a \$100 fine for the first offence; \$100, or thirty days, or both, for the second offence, and \$250, or thirty days, or both, for the third offence. So says, in substance, the decision of the Court of Appeals, handed down last week in the case of the *People vs. Hainer*, the opinion being by Justice Willard J. Bartlett.

W. M. Hainer is the chauffeur of Edward J. Flammer, a New York lawyer, and he was arrested in June last, charged with having driven his car at the rate of eighteen miles an hour. His employer contended that he should be fined under the city ordinance and released, but the magistrate before whom he was brought took a different view of the matter and held the driver for Special Sessions. Mr. Flammer procured a writ of habeas corpus, pending the calling of the trial, and Hainer was ordered discharged by the Special Term of the Supreme Court, before which the writ was argued. The people appealed, and pending the decision of the case by the Appellate Court, the city magistrates followed the ruling of the Supreme Court and violators of the speed law were uniformly subjected to a fine of \$10. Then the Appellate Division of the Supreme Court reversed the finding of the Special Term, and Mr. Flammer appealed to the Court of Appeals, which has just affirmed the decision of the court below in the manner already referred to above.

But in doing so, it does not appear that the court of last resort undertook to ascertain whether the municipality of New York had complied with the conditions precedent, giving it the right to pass a speed ordinance of its own under the Motor Vehicle law. The chief of these is that the speed limit so set shall apply to all vehicular traffic, and this has been complied with by the uniform restriction to eight miles an hour, but a second, and so far as the validity of the ordinance in question is concerned, an equally important condition, is that of placing signs at street corners, such as are commonly seen in the rural districts, stating the permissible speed. In this respect, New York City has failed to comply with the provisions of the State law, as such signs are only to be found in the parks. In view of this it would seem that arrests under the local ordinance could not be upheld until such signs are erected, though the majority of autoists would naturally prefer the lesser of two evils in the shape of the \$10 fine limit of the latter, to the much heavier penalties of the State law.

In its decision, the Court of Appeals takes the position that both the Motor Vehicle law and the municipal ordinance are in full force and effect concurrently, and that when a driver is arrested for having run at a speed of more than eight miles an hour, but less than ten, he is subject to nothing more serious than the \$10 fine provided as a maximum penalty in the latter, while if he exceeds ten miles an hour, he may be apprehended under the State law and either fined heavily within the limits of the penalties provided therein, or even held for trial in Special Sessions and have a bit of involuntary waiting at the city's expense thrown in should the verdict go against him.

The situation is an interesting one, in that it reveals the confusion that is bound to arise in permitting municipalities to pass their own speed ordinances, even under the restrictions of the present Motor Vehicle law.

## GLIDDENS AGAIN OFF ON THE 'ROUND-THE-WORLD TRAIL

IN a short time Charles J. Glidden and Mrs. Glidden will recommence another phase of their self-imposed automobile pilgrimage, which has already taken them a distance of 42,367 miles and brought them in connection with thirty-five countries of the world. Since 1901, when the long ramble up and down the surface of the globe was commenced, new roads have been built, making further conquest possible, and it is now the intention of the doyen of automobile travelers to explore further into the Turkish domains and the countries encircling the eastern end of the Mediterranean.

To explore the new fields by automobile and drive in the oldest countries, headquarters will be established at Alexandria, Egypt. There is in this city a well-appointed automobile garage and drives can be made to places of note. West of the city, by aid of the compass, a journey will be made well out on to the Libyan desert beyond the recently-discovered city of Abu Mina, proceeding over the billiard-floor surface of the desert until it becomes too rough for driving, though a good surface is assured for two hundred kilometers.

Retracing the drive over the desert to Alexandria, it will be possible, though not easy, to follow up the Nile Delta to Cairo, the principal trouble being at the bridgeless streams, or at rivers where bridges are not strong enough to carry the automobile. The Gliddens have had experience of this kind and are familiar with the work necessary to strengthen a bridge.

Cairo is 130 miles from Alexandria, and the excursions in Northern Egypt on the desert to the oasis and return ought to total about 500 miles. Drives south and east of Cairo to the

Pyramids of Gizeh, thence across the desert to those of Abusir and Sakkara, can be accomplished, and a good road runs from Cairo to Suez. By the middle of March, Egypt ought to have added 1,000 miles to the total distance covered by the Glidden party. Writes Mr. Glidden:

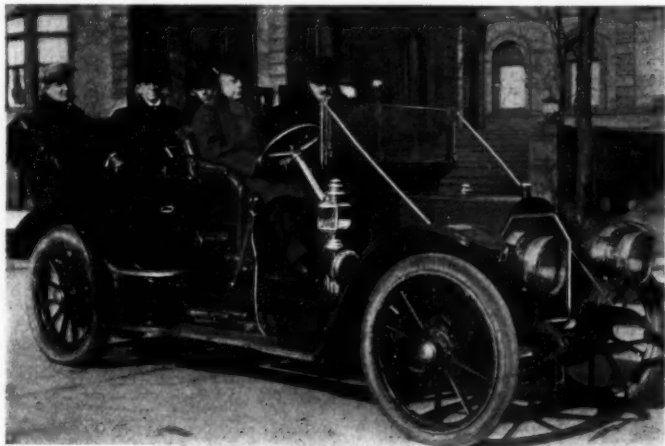
"It would be a hazardous undertaking to drive from Cairo to Jerusalem across the desert, as the Syrian coast is cut up by unbridged streams running down from the mountains, and the trail is principally a pack caravan route often infested with hostile Kurds. The sand of the desert in this section of Syria is soft and deep. It will therefore be necessary in order to reach Syria to ship the car from Egypt to Jaffa, from which place a good road runs to Jerusalem, the Dead Sea, the Jordan, and other points of interest. To reach Upper Syria it will be necessary to return to Jaffa and sail to Haifa, motoring from this point over the mountains of Samaria to Nazareth and the Sea of Galilee at Tiberius. Returning and sailing from Haifa, the next point in Syria will be Beirut. From this place a good road is assured to Damascus, Homs, across the Syrian desert to the ruined city of Palmyra and possibly to Babylon and the Euphrates, making a total drive in Syria of 1,500 miles.

"Carriages now run across the desert, which is smooth and hard, from Bagdad to Aleppo, and on this route there have been established post houses with sleeping and dining accommodations. It will certainly be unique to travel by automobile to these remote places in Western Asia, and the same car which has stood on the banks of the Ganges and in many sacred places in the world is now destined for the Jordan and the Holy Land."



## CLEVELAND MAKERS LOOKING FORWARD COMPLACENTLY

CLEVELAND, Jan. 6.—Cleveland manufacturers and dealers are looking forward to the year with a great deal more complacency than was the case a month or six weeks ago. The financial condition is showing daily improvement, and real money is rapidly displacing the clearing house checks. Manufacturers in all lines who have laid off men are calling them back to work, and one of the best indications of renewed prosperity is the fact



SALES MANAGER R. F. YORK AT WHEEL OF 1908 STEARNS.

that collections are improving from all quarters. This general improvement in business conditions leads the automobile people to believe that while the business for the next month or so may be a little below the average there will be a splendid spring business. The local dealers are congratulating themselves that they decided to hold the local show in February instead of following

the example of the national shows. There is every indication that the actual business at the Cleveland show, which has always been large, will be greater than ever before because of the delay.

One of the best indications of the feeling of optimism is shown in the case of the F. B. Stearns Company, which throughout the financial stringency kept steadily at work on a large addition to its factory. This addition is now completed, and adds greatly to the company's capacity. R. F. York, of the Stearns Company, is now in California, and he reports that the company will get a very nice business from the coast this year. The Stearns factory is running practically a full day force on cars for immediate delivery.

The Peerless Motor Car Company has increased its working force within the past week or so and it now has about three-fourths of full force on full time. It reports that it has on hand more specified orders up to date than the same time a year ago. Business is reported remarkably good in view of general conditions. The Peerless branch at Boston has sold more cars to date than were sold up to March 1 last year.

A. R. Davis, of the Garford Motor Car Company, reports that business is most satisfactory. Two large limousines were sold last week to prominent Clevelanders, and agents are sending in an increased number of orders.

The Winton Motor Carriage Company is working a good-sized force for this time of year and is shipping many cars. All of the branch houses are reporting brighter prospects.

The White Company has practically a full force and is shipping about as usual. Walter C. White, vice-president of the White Company, who has just returned from London and Paris shows, says that foreign trade in Whites will be heavier than ever.

The Baker Motor Vehicle Company is working on large outputs of electrics for 1908.

## THE AUTOMOBILE IS IN THE NATURE OF AN EVOLUTION

"THE automobile is bound to become one of the most stable in the United States," says B. A. Becker, of the Elmore Manufacturing Company, "for those concerns which have an output that is progressive and meets public demand.

"The automobile is in the nature of an evolution, and no evolution can be stopped; in fact, you can no more get along without the automobile to-day than you could without the horse. It annihilates distance better than any locomotive that has ever been built. It brings people out into the open air and invigorates the human system in a better manner than by any other means now in vogue. It combines three very essential points: the most comfortable means of travel, the betterment of health, and the supremest enjoyment of outdoor living.

"Compared with other years we have shipped more of this season's machines up to date than ever before in the history

of our plant. In fact, if we should not make more 1908 cars than we did 1907 cars, we have already shipped almost exactly one-quarter, or 25 per cent., of our output.

"From the present indications, it would appear that 1908 would be one of the best years that we have seen in the automobile business. Present conditions have not affected us up to date, and we consider that it is only a question of a short time when conditions will be normal.

"There is too much pessimism, we believe, in the business world to-day, and it disagrees with our ideas of things, as shown by the fact that we have more men on our pay roll at this time than we had at the same time last year. Our output, as in previous years, has all been contracted with a considerable extent of very desirable territory still open, which we would like to enter, and which will compel us to increase our output."

## AUTOS HAVE BECOME A NECESSITY, NOT ENTIRELY A PLEASURE

"IT is really amusing when I hear these pessimistic rumors regarding the lessening of automobile sales," said Benjamin Briscoe, Chairman of the Committee of Management of the American Motor Car Manufacturers' Association. "I presume these rumors are started by some irresponsible salesmen because a few orders for automobiles have been canceled. Because the water is being squeezed out of many worthless stocks and some institutions have been tottering, the reports have been flying broadcast that the demand for automobiles had been met.

"Any sane and broad-minded individual who has studied the situation knows that automobiles will always be sold. They have become a necessity, not entirely a pleasure. It has reached a stage when the public cannot do without them. Especially is this true in the commercial line. Motor trucks and delivery wagons cannot be turned out fast enough to meet the demand. If there is any salesman who feels he has sold all he can, the sooner he gets into some other business so much the better, considering the demand, especially for town cars, is very good."

## DETROIT FEBRUARY SHOW TO BE A NOTABLE AFFAIR

**D**ETROIT, Jan. 6.—From the automobile show of a half dozen years ago to the one of the present day is not a long hark in point of years, but it reveals some startling developments in cars. Possibly nowhere else in the country has this evolution been more forcibly emphasized than in Detroit, which was the first city in the country to have a local automobile show. It was a primitive affair, according to present standards, but six years has worked wonders, and at the time it attracted widespread attention. It is worthy of note that since its inception the pioneer show has been held under the name of the Tri-State Automobile and Sportsmen's Show, the seventh of which is underlined for February 10-15 at Light Guard Armory.

The original display contained a half dozen models of steam cars, nearly all of which are now unknown, and a single gasoline

car, made in Detroit. For the February show, Manager E. E. McMasters announces there will be twenty-five agencies and factories taking space, approximately fifty different makes of cars being exhibited. Applications were far in excess of this number, but it was found necessary to limit the exhibitors through lack of sufficient room to care for all.

As in the past, the gallery will be given over entirely to accessories. The drill hall in the basement will be devoted to a display of motorcycles, which promises to be most comprehensive.

When the Detroit Automobile Dealers' Association launched its recent show at Riverview Park it was predicted that would put an end to the old one. Quite the contrary, the interest displayed in the Tri-State show is greater than ever, indicating that it will equal if not eclipse all predecessors.

## CLEVELAND'S FEBRUARY SHOW LARGER THAN EVER BEFORE

**C**LEVELAND, Jan. 6.—Specification blanks for the Cleveland show, to be held February 17 to 24, were sent out last week by Manager George Collister. The plans provide for a larger exhibit than heretofore, as the large banquet hall at the north end of Central Armory, heretofore never used for show purposes, has been secured and will give 5,000 more feet of floor space. This will be used largely for motorcycles, bicycles and accessories.

The balconies of the big hall will be used exclusively for accessories, while the main floor and wings will be used for complete automobiles. Only the limitation of space will prevent all the cars represented in Cleveland from being displayed, for with daily improvement in the outlook for business every dealer is anxious to get into the show. The show promises to eclipse last year's successful exhibition by fully fifty per cent.

## POUGHKEEPSIE OFFERS GLAD HAND TO FRENCH FIRM

**P**OUGHKEEPSIE, N. Y., Jan. 6.—It is hoped that the De Dion Bouton Company, of Suresnes, France, will be induced to locate its factory in Poughkeepsie. A representative of the French firm is investigating positions on the Hudson, and has already considered the claims of Albany and Newburgh, but it is believed that Poughkeepsie, with its railroad connections open to all parts and a waterway to the ocean, will be able to carry the day. The Chamber of Commerce has invited the representative to visit the town within a few days to look over the situation and review the advantages of the location. The impression is that the new firm does not desire any bonus, but it must have accommodations for its machinists and workmen, who will probably number about three thousand.

The De Dion Bouton Company, one of the oldest and largest in France, had a certain business connection with the United States in the early days of automobiling, supplying motors and parts to several firms now regarded as being at the head of the American industry. Of late years the business done here has been practically nil, the few imports being parts or an occasional commercial vehicle. The French works, on the banks of the Seine outside Paris, are devoted to the production of touring cars, stationary and automobile engines, and commercial vehicles, this latter class being now particularly important. Three thousand workpeople are employed, the annual pay roll being one million dollars. It is supposed that the American factory will be occupied largely with the production of commercial vehicles.

## A. C. OF SPRINGFIELD HEARS ABOUT IGNITION.

**S**PRINGFIELD, MASS., Jan. 6.—J. O. Heinze, of the Heinze Electric Company, Lowell, one of the foremost electrical experts in the country, gave a very instructive technical talk before the Automobile Club of Springfield, January 2, on "Magnetos and Coils." Before engaging in business for himself, Mr. Heinze was assistant to Professor Elihu Thompson of the General Electric Company. At the St. Louis Exposition he received highest awards for the construction of the most powerful induction coil.

The subject taken up by Mr. Heinze was confined to the relative merits of the magneto and spark coils as applied to automobiles. The speaker was emphatic in his statement that a magneto produced a greater efficiency in the gasoline engine than the spark coil, and that the auto can go farther on a gallon of gasoline when the gases are ignited by the spark of a magneto than by the spark of a coil. Instruments designed by Mr. Heinze were shown which disproved the commonly accepted theory that by advancing the spark early ignition is secured. The instrument showed that the spark at all times takes place at the highest point of compression.

## MARYLAND MAY REBUILD OLD TURNPIKE.

**C**UMBERLAND, MD., Jan. 6.—Activity in the development of highways is clearly manifested in Maryland by the strong support which is being given the proposal for a State road or one main artery controlled exclusively by the State. The matter has been talked of for some time, and has been introduced to the Legislature, but was received at such a late stage of the session that its consideration was impossible. When the Legislature again meets this month the subject will be brought up, when it is hoped that the bill will pass into law. The State road, which when rebuilt would reach in Allegheny county from Flintstone to Grantsville, would be a great boon to tourists going over the old National Pike and the Baltimore Turnpike.

At a recent meeting under the auspices of the road directors of the county, in Cumberland, a resolution was adopted that a bill be framed and presented to the Allegheny county delegation for passage at the coming Legislature calling for a bond issue of \$125,000 for permanent road improvement, an equal amount to be secured from the State under the provision of the Shoemaker fund.



### OPTION GIVEN ON POPE-TOLEDO PLANT.

TOLEDO, O., Jan. 6.—It is reported that at the meeting of the creditors of the Pope Motor Car Company and members of the Toledo Chamber of Commerce, held here last Friday, and which was presided over by the receivers, George A. Yule and A. L. Pope, that an option on the entire Pope-Toledo plant has been given to Joseph M. Schwab. Nothing definite regarding the terms of the agreement has been made public, but it is understood that the consideration is \$800,000, of which Mr. Schwab will pay \$650,000, Toledo interests raising the balance.

### A QUAKER GIRL WHO KNOWS HER CAR.

When John Megraw, one of Philadelphia's prominent real estate men and capitalists, bought his daughter a Wayne roadster he little dreamed that he was performing a stunt that would develop his daughter into a veritable mechanic. But such was the case, and now, whenever any repair is necessary about the house, the Wayne enthusiast is first consulted before a mechanic is engaged to make the repairs.

So much does Miss Megraw think of her car, and so enthusiastic is she over its possession, that she jealously refuses to allow anybody to touch the auto insofar as the operating mechanism and its up-keep are concerned. If the gasoline tank is empty it is Miss Megraw who carries the can and fills



MISS MEGRAW IN HER WAYNE.

the tank with the gas supply. If the oil pump is dry, it is Miss Megraw who raises the hood and fills the oil case with the lubricant. If the vicious nail or tack plays havoc with a tire, or if a plug ceases to spark, or if anything occurs that requires any attention, it is not a chauffeur or mechanic who attends to it, but Miss Megraw herself.

"I just love to putter around the working parts of my Wayne," laughed Miss Megraw as she closed down the hood after filling the crankcase with oil. "While I have never really had any trouble with my car, I tinker around a good deal just to satisfy my curiosity. I have driven all over Philadelphia during the past season, and now I am planning for some real tours next year. I want to take some trips into other sections of the country, and it was because of my desire to do such stunts that I have fitted myself to handle my Wayne both in driving it and in keeping it in running order."



HOW THE POPE-HARTFORD BROUGHT THE DELAYED STEEL.

A few weeks ago the Pope Manufacturing Company were at a loss to know what had become of a carload of steel which had been shipped from Elyria, O., to the factory at Hartford, and as the company was sorely in need of some of the cargo it traced the car to Albany, where the car had been sidetracked. E. J. Wall, traffic manager for the company, and driver Jim Young, started in a Pope-Hartford for Albany, found the car, and loaded all the raw steel they could on it, about a ton altogether, making the total trip of over 260 miles without a mishap, within twenty hours from the time of starting.



#### GEARLESS TRANSMISSION COMPANY'S NEW YEAR'S GREETING.

To all Ye faithful TELLERS of tangible TALES  
Is it known that these **BE TOLD** Times,  
Ye jugglers of **JUNK** AND performers OF

#### PARTS these be TIGHT TIMES.

Ye are **BROKE**, YE are **BeSet**  
COMETH YE CAUSE TIC CRI DIT OR with a Crib.

A FEELY PRESIDE that PRUNCE YO.

GLUM and EERY to EASE YE.

COMETH YE Jelling JELLY with a JAVE LIE.

JAB YE, SLICING YE YE SHE KID.

COMETH the CUSHER, CUSHER, CUSHER.

WITH YE CASH—NOT.

YE are BROKE and there BE TIGHT TIMES.

BUT COME YE to US At ye NEW YE while ye

take TAIL CHAIRS YE a HANGOVER from CHRYSTMAS.

FOR THE TWONLASS WOND'ER HALL UNBROOD

HE UPSTAIR, as a SALTARIE ME YE SAPPY and a GILLY.

COMETH YE to US with the CUSHER, CUSHER

and HANGOVER with YE HANGOVER.

In the BLUE ROOM.

WHILE OUT DE VINE

"SLIP"

SLIP OVER to YE the HOT BIRD

and the COLD BOTTLE

It Be TIGHT TIMES, COME !!



Ye Gearless TRANSMISSION CO.  
At Ye FLAG Station ROOMS  
on Ye four track Road.

### GEARLESS TRANSMISSION COMPANY'S NEW YEAR'S GREETING.

### KNOX TO BUILD NEW FIRE TRUCK.

SPRINGFIELD, MASS., Jan. 6.—The City of Chicopee has just ordered the Knox Automobile Company to construct a new automobile combination fire truck for the city's fire department. The new auto truck will be the first of its kind ever built by an automobile manufacturer in the country, and is to cost \$5,000. The specifications call for a combination chemical, hose and ladder truck, equipped with a 1908 model, four-cylinder, 40-horsepower, three-speed, air-cooled gasoline engine. Its maximum speed will be twenty miles an hour and will be so built as to ascend grades at an average of ten miles an hour. The new auto truck's fire-fighting apparatus is to consist of two 25-gallon Holloway chemical engines, with 300 feet of hose and two sizes of nozzles. The whole outfit will weigh 7,500 pounds.



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### A Conflict of State and Municipal Legislation.

In the matter of legislation, New York State has long been looked upon as one of the most progressive communities in the Union, and its lead in dealing with the legal side of the many problems of commercial and domestic relations has been followed by a large number of the other States. The same thing is true where automobile legislation is concerned, but the recent decision of the Court of Appeals, in the case brought to test New York City's much discussed ordinance, would appear to place it in quite a different light. Under the Motor Vehicle law of New York, local ordinances are prohibited except where they impose a uniform speed limit of ten miles an hour on all vehicular traffic, and signs are posted to that effect.

Despite the fact that the law has not been complied with in the latter respect, the court of last resort has held that the ordinance is valid, but to support this contention it has been necessary to make the State law begin where the city ordinance leaves off. In other words, the autoist who exceeds the archaic eight-miles-an-hour municipal restriction, but in doing so does not surpass the ten-miles-an-hour limit of the State law, is amenable under the former and the maximum penalty incurred cannot exceed \$10. If he break both by driving more than ten miles an hour, then the State law becomes operative.

Despite the fact that no vehicle capable of exceeding it ever keeps within the absurd limit nominally imposed by the city authorities, something which practically renders the present municipal ordinance void despite the court's decision to the con-

trary, such a situation can only lead to confusion and dissatisfaction. While the recognition of New York's ordinance, without the condition attached to it by the court's decision, might be desirable from several points of view, if its upholding were to precipitate a flood of local ordinances throughout the State, the privileges gained under it would be dearly bought. The endless annoyances arising out of the pernicious activity of village councilmen brought about the general prohibition of local ordinances which is now a feature of most State legislation. Of what value will uniform State laws be if they are such only in name?



### Singular Phase of the Desire for Speed.

With the unprecedented capacity of the automobile for speed, and the fact that it represents the culmination of human invention to satisfy the innate passion of the average individual to be able to travel quickly and at the same time control his own mode of getting over the ground, it is not strange that the ways in which the latter has been manifested have been numerous. Not the least strange of these is the desire of the autoist whose circumstances limit him to the possession of a low-powered car to make it a vehicle capable of traveling at a far higher rate of speed than its creator ever intended it for.

After having enjoyed the use of such a vehicle for a season or more, its efficiency is not what it was originally and its owner's desire for greater speed and hill-climbing power has grown in inverse ratio to the car's falling off. More power and more speed is his demand, and to satisfy it the expedients of increasing the compression of the motor and of raising the gear ratio of the car seem to be those most frequently thought of. Of the two, judging from the number of letters received from correspondents, the latter appears to be the more popular, and the plans for increasing the speed of the car do not, in the majority of instances, include any provision for making a corresponding increase in its power. It should be borne in mind that speed is but one of the manifestations of power and its attainment involves other factors than that of the relative number of revolutions of the engine and road wheels, and the fact that every increase in speed shortens the life of every part of the car should not be overlooked. In most cases restoring the car to its original degree of efficiency will suffice to accomplish all that can be safely recommended in this direction, and the practice of tinkering a 10-horsepower runabout in an attempt to make it the equal of a 25-horsepower car is to be deprecated.



### Brake Improvement on the Cars for 1908.

While it is with pardonable pride that the American manufacturer regards himself and his product as having progressed beyond the influence of foreign standards, where betterment is concerned, the unprejudiced observer cannot but admit that the builder of European cars pays considerably more attention to the highly important essential of brakes than does his competitor in this country. It is a practice that the foreign builder has consistently adhered to for several years past, and while it may be considered that, in some instances, the factor of safety provided for has reached extremes, exceeding the requirements in this direction is more commendable than falling short of them.

American makers have practically abandoned the transmission brake where the 1908 cars are concerned, and inspection of the latter also bring to light the fact that more attention has been paid to the matter of the dimensions of the brake bands and drums, now almost universally to be found on the driving wheels, where they belong. Separating the friction surfaces against which the two brakes bear by making the drum double is also a most commendable feature, as in removing the heating influence of one from the other, this being a disadvantage where an external contracting and an internal expanding brake bear against opposite faces of the periphery of the same drum, both are made more efficient and at the same time entirely independent.



## JANUARY DATE FOR NEXT A. L. A. M. SHOW IN GARDEN

**M**OST important of the decisions arrived at by the board of managers of the Association of Licensed Automobile Manufacturers at its meeting at the association's offices, 7 East Forty-second street, New York City, Tuesday, January 7, was the resolution adopted setting the time for the next annual show for January, 1909, in Madison Square Garden. This is practically a return to original show dates, and is an indication that the November-December dates of the 1907 show were not as advantageous as had been expected. Colonel George Pope, chairman of the show committee, in his report stated that the recent show had been the most successful of any yet held, but advocated a return to the January date as more suitable to recognized business conditions. Optimistic forecasts regarding business prospects for next season were made by several members of the Association.

Persistent rumors were current prior to and during the prolonged session of dissensions within the association, and of an intention to reorganize. Prominent members emphatically deny these reports, and General Manager M. J. Budlong stated that the same progressive policy would be

maintained in the prosecution of infringers of the Selden patent, and that the general policy of the association would be carried out as in the past. The following members were present at the meeting:

J. S. Clarke, Autocar Company; W. E. Metzger, Cadillac Motor Car Company; H. S. Hart, Corbin Motor Company; H. S. Lloyd, Electric Vehicle Company; B. A. Becker, Elmore Manufacturing Company; H. H. Franklin, H. H. Franklin Manufacturing Company; C. H. Haynes, Haynes Automobile Company; E. R. Hewitt, Hewitt Motor Company; E. H. Cutler, Knox Automobile Company; S. T. Davis, Jr., Locomobile Company; H. Lozier, Lozier Motor Company; C. W. Matheson, Matheson Motor Car Company; V. M. Gunderson, Northern Motor Car Company; F. L. Smith, Olds Motor Works; H. B. Joy, Packard Motor Car Company; L. H. Kittredge, Peerless Motor Car Company; Charles Clifton, George N. Pierce Company; A. L. Pope, Pope Manufacturing Company; George Pope, Pope Motor Car Company; E. D. Shurmer, Royal Motor Car Company; G. E. Mitchell, Alden Sampson, second; R. H. Salmons, Selden Motor Company; E. McEwen, F. B. Stearns Company; C. C. Hildebrand, Stevens-Duryea Company; H. H. Eames, Studebaker Automobile Company; E. C. Morse, E. R. Thomas Motor Company; E. P. Chalfonte, Waltham Manufacturing Company, and T. Henderson, Winton Motor Carriage Company.

## MASSACHUSETTS MAY HAVE GRADUATED REGISTRATION

**B**OSTON, Jan. 6.—Governor Guild of Massachusetts apparently is not wholly satisfied with what the Legislature did last year in the way of putting the cost of the maintenance of the State roads upon the automobilists. In his inaugural address, delivered at the assembling of the Legislature for 1908, this week, he again devoted some space to a consideration of the question of automobiles and the roads and he again recommends that a system of graduated registration fees be put into force. The Governor also gets after the automobilists from outside the State, thousands of whom come here every year and use the improved roads without contributing anything for their repair or maintenance. That some legislation in the form of a measure for a graduated registration fee will be presented at this term of the Legislature there is little doubt, for members

of the Senate are still somewhat disgruntled at the defeat which they received at the hands of the House last year, when a deadlock was broken in the last days of the session by the Senate abandoning its bill for a graduated registration fee and permitting the House bill for a flat annual fee to pass.

Local owners of cars undoubtedly will oppose a graduated fee bill or any other change, because they believe that much harm is done by continually tinkering with the law, and that the measure passed last year should be given a more thorough trial before it is abandoned. They believe also that more inequalities would arise from the enforcement of a graduated fee than from the present flat fee system. Any proposition to put more burdens upon the tourist will be opposed by the many citizens interested in the lucrative summer resort business of this State.

## MOTORING MAYOR OF NEW YORK RECOMMENDS WISELY

**B**Y protesting against the exhaust cut-out, the use of sirens, smoky exhausts, and acetylene searchlights within the built-up portion of the city, Mayor McClellan of New York City has taken a step which will be approved by right-minded autoists.

It was in his annual message to the Board of Aldermen that the Mayor put forth his view on the control of automobilists while within the city. After pointing out that some provision should be made for licensing all sightseeing automobiles, which at present pay no fee whatever to the city, the Mayor protested against the use of the siren within the city limits on all automobiles other than those connected with the Fire Department. His other recommendations were that all automobiles should be equipped with adequate mufflers, which should never be cut out within the limits of the built-up portions of the city. That, ex-

cept for the first ten seconds after starting the engine, no smoke shall be allowed to come out of the exhaust pipe. It is wholly unnecessary and is simply an evidence of carelessness or incompetence. That the use of acetylene headlights within the built-up portions of the city should be prohibited.

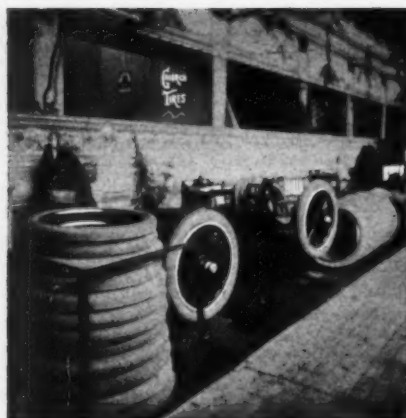
If judiciously put into force, the regulations cannot be otherwise than beneficial to all users of the road, not excluding automobilists. Their practicability has been conclusively proved in European cities, where all the regulations have been in force for several years. The only case in which any hardship might occur would be in suppressing the smoke nuisance. It is here that the police ought to act discriminately. As to the other proposed regulations, they could not be applied too rigorously.

### A. A. A. EXECUTIVE COMMITTEE HOLDS SESSION.

A meeting of the executive committee of the board of directors of the American Automobile Association was held Tuesday afternoon, January 7, at Association headquarters, New York City, President W. H. Hotchkiss presiding. Only routine Association business was considered.

### HOME HONORS FOR PRES. WM. H. HOTCHKISS.

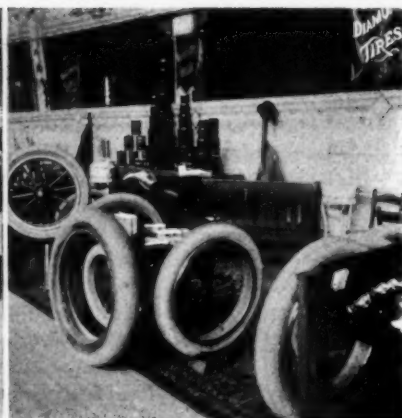
BUFFALO, N. Y., Jan. 6.—President William H. Hotchkiss of the American Automobile Association last week was elected president of the Erie County Bar Association, which gives an indication of the home appreciation of the energetic president of the national automobile organization.



AT THE GOODRICH STAND.



WHERE THE FISK PRODUCTS WERE ON VIEW.



DIAMOND TIRES WERE PLENTIFUL.

## IMPORTERS EXPRESS SATISFACTION WITH SHOW RESULTS

**S**ATISFACTION as the result of the week's efforts was expressed everywhere on the ground floor of Madison Square Garden when the Importers' Automobile Salon closed its doors and turned out the lights late on Saturday night last. Without exception, the importers of foreign cars declare good business was done, that prospects are bright, and that they have nothing but praise for the experimental Garden show.

Up in the gallery rather a different tune was hummed, the keynote of which was not altogether joyous. Thin attendance, though it may be everything that one can desire in the matter of quality, cannot make up for quantity when it comes to selling articles of common utility retailing at a low figure. "Altogether we have laid down about fifteen hundred dollars during the week," said the manager of one of the largest accessory stands, "and have very little to show in return for it. The people we expected to see have not responded to our invitations, and though there may have been plenty of car buyers we require the thousands who cannot purchase a car every few months but have always some money to spend on useful accessories and appliances."

### Mr. Mabley Says There'll Be Another.

How it looked through official eyes was told by C. R. Mabley, general manager and secretary of the show committee, in a talk to THE AUTOMOBILE representative. "We have every reason to be satisfied with the Importers' show. I am rather sorry for the accessory men, for they have not done the business they expected to do; but every car exhibitor records good sales and excellent prospects for the coming season.

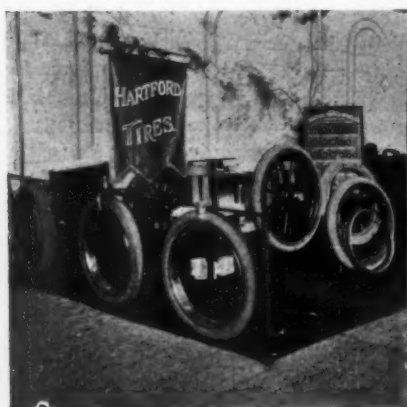
"Is the popular estimate of \$60,000 as expenses exaggerated?"

"Well, \$50,000 will not be far off the exact figure. Even apart from gate receipts, our show income is sufficient to pay all ex-

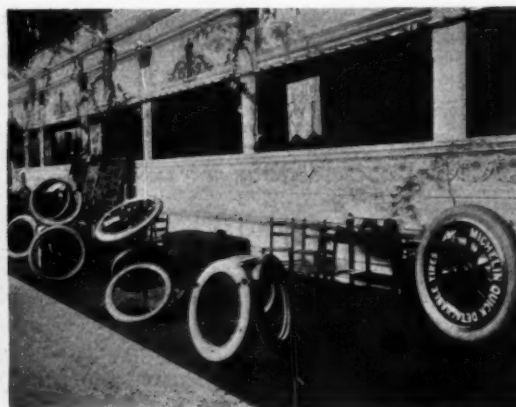
penses in connection with the exhibition, and when we close down we shall have, if not a balance in hand, at any rate a square account. From many standpoints it is a pity that there should be three different automobile exhibitions in New York, but there has been nothing in this exhibition to dissuade us from holding a second independent Importers' show next year on similar lines."

André Massenat, chairman of the show committee, and head of the Panhard & Levassor agency, said: "The show has been an unqualified success. Attendance has not been as high as we expected it to be, but we have had the right class of people, people who came with the avowed intention of buying cars, and did buy. I have assured myself by personal inquiries of every car exhibitor that good business has been done. As to the accessory exhibitors, I have only come in contact with two or three of them, and consequently cannot state what their impressions are. Everywhere we have been congratulated on the artistic arrangement of the exhibition and the practical placing of the cars and chassis in such a way that visitors could conveniently examine them in every detail, it being distinctive of this show that the majority of those attending it were connoisseurs of automobiles, who would not have been satisfied with a crowded group of cars. In principle it is already decided that an independent Importers' show shall be held next year. As to what lines it will take, whether it will be held here or elsewhere, cannot be determined at such an early date, but in principle we are decided to again run our own show."

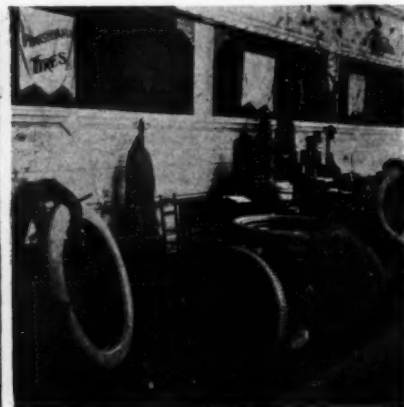
Paul Lacroix, manager of Renault Frères selling branch: "Decorations and general display have made this show the finest spectacular automobile event New York has ever seen. From a business standpoint we have found it the best show in which we have participated. Attendance has not been large, it is true, but



WHERE THE HARTFORDS SHOWED.



TIRES AND RIMS AT THE MICHELIN STAND.



AT THE PENNSYLVANIA EXHIBIT.



we did not want persons interested in \$900 cars, for none of us attempt to supply such an article. People interested in high-class automobiles, able and willing to buy them, were desired, and we have had them in sufficient quantities to satisfy everybody. From our own business standpoint there is nothing but praise for the show, and our prospects for the year are so good that, in addition to an extended Eastern trade, we have made arrangements for direct Renault representation in the West, notably in Chicago and San Francisco."

Percy Owen, agent for the Bianchi car: "When this show was proposed we conservatively took a small space, believing that it would be sufficient for our needs. I regret now that we did not secure the maximum space allowed, for business results, by which I mean actual sales and not merely inquiries, have been far above expectations. To me the show has proved not only that there is a real interest in high-class foreign cars, but that a trade show is a much more successful proposition than the big national displays. At the latter you attract crowds of idlers with no other object than to see the sights and collect catalogues, only to throw them away. Here the idle, uninterested visitor has been conspicuous by his absence; those who came entered the show with a view to examining the cars preparatory to buying. One of the lessons which it has taught me is that importers should maintain a permanent exhibition, naturally planned on a more economical

scale, but still following the general lines of this, where out-of-town visitors could examine under one roof all the principal models of foreign automobiles. Importers have not agencies throughout the country as in the case with American constructors, and they should, in consequence, offer some central point where it would always be possible to examine and obtain particulars of their cars.

In this connection the Motor Mart naturally suggests itself as a central exhibition hall."

M. Neubauer (Delaunay-Belleville): "I believe I am correct in stating that the volume of business at this show has been equal to that of either the A. L. A. M. exhibit or the independent exhibition at Grand Central Palace. We have not sold the same number of cars, but all our sales having been of high-class and high-priced vehicles I believe that their total will form a record for this season's New York shows. Our own feeling is one of complete satisfaction. No mention of future plans has been made to me, but I see no reason whatever why we should not repeat the Importers' show next year."

#### Some New Things in the Accessory Division.

At the end of a series of automobile shows, in one or more of which all the numerous accessory makers have taken part, it was not to be expected that there would be a very fertile crop of novelties in appliances for use on or around automobiles. Naturally, where any particular novelty had been produced in the interval between last season and the present period of shows, it was endeavored to procure it in time for the initial exposition, and thus obtain the maximum of publicity. It is for this reason that the accessory stands at the Importers' show on the whole presented well-tried and standard lines, or novelties that were no longer entirely novel.

There were a few exceptions, either of things that appeared to have been overlooked in previous exhibitions or for some reason or other only turned up at the end of the show season. At the Bianchi stand M. Bousquet, European selling agent for the Bianchi

car, showed an air pump and self-starter designed to be fitted to any automobile. The compressor consisted of an air pump designed to be driven off the main shaft, or any other convenient position. For use as a tire pump no other connection would be necessary than a length of tubing sufficiently long to lead to any of the wheels. When the pump was desired as a self-starter, it was used to compress air into a tank from which it could be admitted to the cylinders through a distribution valve timed off the camshaft. The inlet device had been designed on simple lines. A better known automatic tire inflator, recently introduced to America, was the Delpeuch, consisting of a compact cast-steel cylinder with supports, intended to be fixed in such a position on the car that the sliding pinion on its crankshaft could mesh with a toothed wheel on the driving shaft of the car. Generally between the clutch and the gearbox is found to be the most suitable position, though where no length of shaft is available here any other position can be selected. The inventors declare that no car has yet been found on which it could not be fitted. To put the pump into operation all that is necessary is to slip the sliding pinion into mesh, this being easily done by a command brought up to the dashboard. The automatic inlet valve is fixed in the piston head and the outlet valve in the cylinder head. A manometer and a rubber pipe completes the equipment. For work in garages a larger pump is made, with a water-cooled cylinder.

Léon Rubay's new production was the Gillett-Lehmann gasoline economizer, which, after considerable success in Europe, has been introduced to the United States. Claims made for the device are a saving in consumption of gasoline, increased power, and the avoidance of offensive exhaust gases. It consists of an adjustable air valve or plug screwed down to the top of the float chamber and connected with the small-bore tubes to the induction pipe, one attached on the engine side of the throttle and the other on the jet side. These are known as the balance pipes. The pressures on either side of the throttle are always varying with every movement of the throttle, but as both small pipes lead to the same small chamber in the economizer a mean pressure is created there, and it is thus that it exerts its economizing influ-



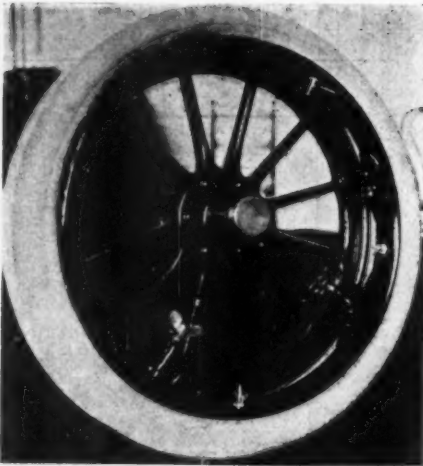
A TABLOID MEDICINE CHEST.



R. I. V. BALL BEARING.



HEALY DISMOUNTABLE TIRE BEING FIXED ON ITS RIMLESS WHEEL.



HOW THE STEPNEY WHEEL IS FITTED.

around the balls after they were in proper position in the bearing, but sufficiently free to allow them to revolve freely. The ring serves the double purpose of properly spacing the balls with a cage that is indestructible and assists in the proper distribution of the lubricant.

A medicine chest is generally too bulky an article to find a position on an automobile, much as its presence would be appreciated at certain times. At the booth of the Auto Supply Company the want was met in what appeared to be a perfect manner, a compact japanned metal box, no larger than the road book many an automobilist carries along with him, containing no fewer than twenty-five articles intended for first aid in the absence of a medical man or before his arrival. Just as an indication of how space was economized, a supply of cotton wool, which ordinarily would alone have filled the box, was compressed into a small package a couple of inches in length. Practically everything necessary for the treatment of minor accidents, burns or cuts was to be found in the case. At the same stand tea was treated in a similar manner, being compressed into small tabloids, two of which would furnish sufficient beverage for about three people. Sugar is supplied in the form of "Saxin," declared to be six hundred times sweeter than the commonly employed article, and of course compact in the same degree.

ence. It is claimed that every type of automobile can be fitted with the device without difficulty.

A new type of ball bearing introduced from Europe formed one of the attractions at the stand of the Auto Supply Company. To get away from the objectionable breakage of the cage holding the balls in position, the R. I. V. bearing has been made with an anti-friction ring cast

The only detachable rim on exhibition which had not been seen at previous shows was to be found at the stand of the Healy Leather Tire Company. Distinctive in the device is the absence of a wooden, steel-bound felloe, making a double rim, as employed on nearly every other make. The dismountable rim is attached by means of a clip at the end of each spoke. Thus by the suppression of the wooden felloe and one steel rim the Healy device is as light, if not slightly lighter than the ordinary type of fixed wheel. Conversion of an ordinary wheel to a dismountable is a simple matter and one costing but little. The metal rim is taken off and retained, the wooden felloe knocked off and discarded, then the end of each spoke cut down and turned to receive a steel socket with a couple of case-hardened lips, one fixed, the other attached by a nut and bolt, but not entirely dismountable. It will be immediately noticed that the ordinary lugs and valve can be retained, an advantage which will be appreciated by the practical automobilist. In addition to the lip at the end of each spoke binding the face of the rim, there is the usual expanding motion on the entire rim, which should theoretically make a perfectly safe unit. According to the statement of the manufacturer, experiments carried on throughout the summer have proved the dismountable wheel to be more than equal to the strains of a heavy car over the worst roads.

Though a newcomer to America, the Stepney wheel, shown at the Garden, is no longer a stranger, its own merits having brought it quickly before the public during the few months it has been on this side of the Atlantic. In brief, it consists of a metal rim without felloe, spokes, or hub, on which is carried an inflated tire. When not in use the wheel is carried on the side of the car in exactly the same manner as a spare shoe. On a puncture occurring, the deflated tire is left undisturbed, and the Stepney attached to the wheel by means of three or four clips—according to size of wheel—fitting over the clincher lip of the permanent wheel. Two of the clips are rigid and two are adjustable by thumb nuts, all that is necessary to secure the wheel being to get the fixed clips in position and tighten up on the adjustable ones, the use of a jack under ordinary circumstances being superfluous. To prevent creeping of the Stepney around the fixed wheel, a metal lip on the smaller sizes engages one of the spokes. For the largest wheels a couple of leather straps are passed around the clip and a spoke. No tools whatever are required for mounting the wheel, the time occupied is but a few minutes, and the Stepney can be run hundreds of miles with safety.



BRUSSELS SEVENTH ANNUAL AUTO SHOW, SECOND ONLY TO PARIS IN IMPORTANCE, HAD FORD AND REO IN FOREGROUND.



## SEVEN DISTINCT EVENTS FOR ORMOND-DAYTONA CARNIVAL

WITH the addition of a stock chassis race to the program of the Ormond-Daytona speed carnival, from March 2 to 7, there are now seven distinct events for the world's fastest straightaway track. According to the entry blank issued by the Contest Committee of the Automobile Club of America, the stock chassis event will be five times round the 32-mile course, giving a total distance of 160 miles, and will be eligible to any American or foreign chassis, the maker of which shall have manufactured and delivered, or be ready to deliver before February 15, 1908, ten chassis similar in every respect to the one entered. No restrictions are placed on the body, other than that provision must be made for two persons and that a mechanic must ride along with the driver. Total piston area has been limited to 103.87 square inches, which will admit the equivalent of a four-cylinder engine having a bore of 5 3/4 inches. The prizes in the stock chassis event are a silver cup to contestants finishing first and second; entrance fee is \$100.

All other events are announced to be run under Vanderbilt Cup race conditions, limiting the weight of the car to 2,424 pounds. The center of attraction should be in the contest for the Automobile Club of America Cup, nine times round the course, or 288 miles, in which event some of the cars built for the last Vanderbilt Cup race should participate. Event No. 2 is a four-lap race for gentlemen amateur drivers, the trophy being a silver cup.

In the 100-mile race for the Minneapolis International Championship Trophy, won successively by a Napier car entered by S. F. Edge and by E. B. Blakely on an American Mercedes, entrance fee has been fixed at \$50. In this event, as well as in

the other long-distance races, the referee shall have power to make the starts as he may deem proper should entries be large.

Three short-distance events, for the Sir Thomas Dewar Trophy, the Two-Mile-a-Minute Trophy, and mile and kilometer records can only be entered by cars which have participated in the long-distance races, or accomplished a distance of 100 miles at an average of 60 miles an hour.

All events will be conducted under the Racing Rules of the American Automobile Association, over a 16-mile straightaway with loops at each end, affording a circuit of approximately 32 miles. As far as possible starts will be made at the clubhouse of the Florida East Coast Automobile Association, where the grand stand and officials will be located; the exact time of starting to depend on the tide and condition of the beach. The rule requiring contestants to be in the enclosure designed for them at least thirty minutes before the start of their race will be strictly enforced. All events, declares the official entry form, will be confined to white male drivers eighteen years of age or over. Entries, which should be addressed to Robert Lee Morrell, chairman of the Contest Committee of the Automobile Club of America, will be received until midnight on February 15.

Chicago Automobile Club's first entry for the Florida carnival is announced as G. F. Sulzberger's six-cylinder Stearns, which carried off the speed laurels in the Harlem track races last October. It is intended by the Racing Committee of the Chicago Club to organize a special train from the Windy City to Ormond in connection with the races. Chairman Gregory, Joseph F. Gunther, and Walden W. Shaw have charge of the arrangements. A big Western delegation is expected.

## THREE MORE BRITISH ENTRIES FOR FRENCH GRAND PRIX

PARIS, Jan. 1.—England is coming out stronger for racing next season than was generally expected, for in addition to Ariel, already officially promised for the Grand Prix, Weigel has this week sent a letter in which he declares that in six weeks he will be over in Paris to show off his racers for the Blue Ribbon of the automobile world. Weigel is England's plucky but unlucky aspirant for speed honors who last year built a couple of eight-cylinder racers—which, by the bye, he now calls touring cars—and received as his reward a condemnation to one month in prison, without the option of a fine, for exceeding the speed limit. Naturally a protest was made, Weigel maintaining that the police had got mixed up on the cars, that his own machine had a slipping clutch and could not get on at all, and execution was suspended while the legal machinery went into operation.

The three machines for next year's race will have four, not eight, cylinders, bore being the maximum of 155 millimeters. What other features they will possess Weigel fails to say, except that they will, naturally, be marvelously fast and give the Frenchmen, Italians, Germans and Belgians a stern chase.

No decision has been arrived at regarding the choice of a circuit, Dieppe standing favorite, but half a dozen other districts are doing their best to attract the favorable consideration of the Racing Board. The suggestion has been put before the committee that if the Dieppe course is selected the race should be held in the opposite direction, the cars traveling in the same way as the hands of a clock, and that the tire and gasoline stations be placed opposite the grandstand, as was done so successfully in the first Grand Prix race on the Sarthe course.

## SPECIAL CASH PRIZES FOR THE WESTCHESTER RACE

TWO certified checks of the value of \$750 and \$500 have been sent to Chairman Robert Lee Morrell as special prizes in the race for the Briarcliff Cup, planned to be held over a Westchester County, N. Y., course in the spring. The larger amount came from Joseph Gilbert, American manager for Continental tires, with a request that \$500 should go to the driver of the first car using Continental tires, and \$250 to the driver of the second car similarly equipped. Alexander Dow's check for \$500 is to be used as a cash prize to the driver finishing first with an equipment of Dow non-deflation inner tubes.

A knotty question confronts the Race Committee, as the result of Mrs. A. N. Cuneo's decision to enter the stock chassis race with a 45-50-horsepower Rainier, which she has recently

purchased. Thomas F. Moore is reported to have replied that he would personally like to accept the \$1,000, but that he has misgivings as to what his committee would say on the matter. Should the committee make up its mind that the lady's entry shall be accepted on the undisputed ability of the applicant to handle a car in a speed contest, then the check will be taken and the anger of the ungallant ones borne bravely. Meanwhile the secretary is waiting, with a blank sheet before him, to record the names of those itching to hand over a thousand-dollar note for the privilege of contesting the Briarcliff Trophy. When thirty cars have been received the lid will be put down tight, for the committee has decided that it will only accept one car for each mile of the course, and will make no further concession.

## NEW YORK'S LEGAL AUTOMOBILE SITUATION CONFUSED

ALBANY, N. Y., Jan. 6.—Henceforth the lot of the autoist in New York City will be more interesting in that he may have an opportunity to choose under which law he wishes to be apprehended for violating the speed limit. If he drives more than eight miles an hour, but less than ten, it is then the duty of the first policeman who sees him to take him into custody on the charge of having violated the municipal ordinance, for which the maximum penalty is a \$10 fine. If his car happens to go eleven miles an hour, the same policeman may take him in, in the same manner, on the charge of having violated the Motor Vehicle law, under which the penalty may be anything up to a \$100 fine for the first offence; \$100, or thirty days, or both, for the second offence, and \$250, or thirty days, or both, for the third offence. So says, in substance, the decision of the Court of Appeals, handed down last week in the case of the *People vs. Hainer*, the opinion being by Justice Willard J. Bartlett.

W. M. Hainer is the chauffeur of Edward J. Flammer, a New York lawyer, and he was arrested in June last, charged with having driven his car at the rate of eighteen miles an hour. His employer contended that he should be fined under the city ordinance and released, but the magistrate before whom he was brought took a different view of the matter and held the driver for Special Sessions. Mr. Flammer procured a writ of habeas corpus, pending the calling of the trial, and Hainer was ordered discharged by the Special Term of the Supreme Court, before which the writ was argued. The people appealed, and pending the decision of the case by the Appellate Court, the city magistrates followed the ruling of the Supreme Court and violators of the speed law were uniformly subjected to a fine of \$10. Then the Appellate Division of the Supreme Court reversed the finding of the Special Term, and Mr. Flammer appealed to the Court of Appeals, which has just affirmed the decision of the court below in the manner already referred to above.

But in doing so, it does not appear that the court of last resort undertook to ascertain whether the municipality of New York had complied with the conditions precedent, giving it the right to pass a speed ordinance of its own under the Motor Vehicle law. The chief of these is that the speed limit so set shall apply to all vehicular traffic, and this has been complied with by the uniform restriction to eight miles an hour, but a second, and so far as the validity of the ordinance in question is concerned, an equally important condition, is that of placing signs at street corners, such as are commonly seen in the rural districts, stating the permissible speed. In this respect, New York City has failed to comply with the provisions of the State law, as such signs are only to be found in the parks. In view of this it would seem that arrests under the local ordinance could not be upheld until such signs are erected, though the majority of autoists would naturally prefer the lesser of two evils in the shape of the \$10 fine limit of the latter, to the much heavier penalties of the State law.

In its decision, the Court of Appeals takes the position that both the Motor Vehicle law and the municipal ordinance are in full force and effect concurrently, and that when a driver is arrested for having run at a speed of more than eight miles an hour, but less than ten, he is subject to nothing more serious than the \$10 fine provided as a maximum penalty in the latter, while if he exceeds ten miles an hour, he may be apprehended under the State law and either fined heavily within the limits of the penalties provided therein, or even held for trial in Special Sessions and have a bit of involuntary waiting at the city's expense thrown in should the verdict go against him.

The situation is an interesting one, in that it reveals the confusion that is bound to arise in permitting municipalities to pass their own speed ordinances, even under the restrictions of the present Motor Vehicle law.

## GLIDDENS AGAIN OFF ON THE 'ROUND-THE-WORLD TRAIL

IN a short time Charles J. Glidden and Mrs. Glidden will recommence another phase of their self-imposed automobile pilgrimage, which has already taken them a distance of 42,367 miles and brought them in connection with thirty-five countries of the world. Since 1901, when the long ramble up and down the surface of the globe was commenced, new roads have been built, making further conquest possible, and it is now the intention of the doyen of automobile travelers to explore further into the Turkish domains and the countries encircling the eastern end of the Mediterranean.

To explore the new fields by automobile and drive in the oldest countries, headquarters will be established at Alexandria, Egypt. There is in this city a well-appointed automobile garage and drives can be made to places of note. West of the city, by aid of the compass, a journey will be made well out on to the Libyan desert beyond the recently-discovered city of Abu Mina, proceeding over the billiard-floor surface of the desert until it becomes too rough for driving, though a good surface is assured for two hundred kilometers.

Retracing the drive over the desert to Alexandria, it will be possible, though not easy, to follow up the Nile Delta to Cairo, the principal trouble being at the bridgeless streams, or at rivers where bridges are not strong enough to carry the automobile. The Gliddens have had experience of this kind and are familiar with the work necessary to strengthen a bridge.

Cairo is 130 miles from Alexandria, and the excursions in Northern Egypt on the desert to the oasis and return ought to total about 500 miles. Drives south and east of Cairo to the

Pyramids of Gizeh, thence across the desert to those of Abusir and Sakkara, can be accomplished, and a good road runs from Cairo to Suez. By the middle of March, Egypt ought to have added 1,000 miles to the total distance covered by the Glidden party. Writes Mr. Glidden:

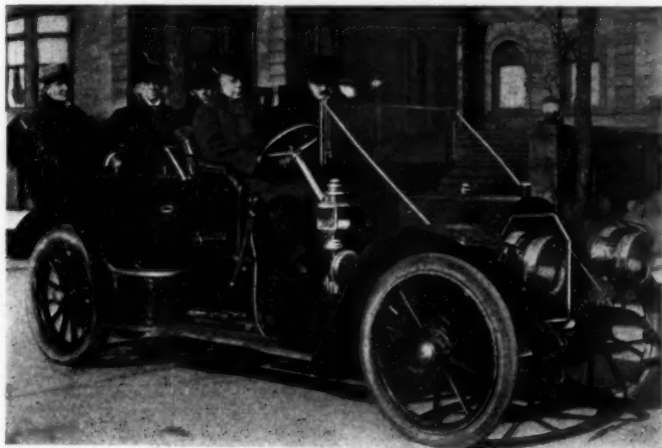
"It would be a hazardous undertaking to drive from Cairo to Jerusalem across the desert, as the Syrian coast is cut up by unbridged streams running down from the mountains, and the trail is principally a pack caravan route often infested with hostile Kurds. The sand of the desert in this section of Syria is soft and deep. It will therefore be necessary in order to reach Syria to ship the car from Egypt to Jaffa, from which place a good road runs to Jerusalem, the Dead Sea, the Jordan, and other points of interest. To reach Upper Syria it will be necessary to return to Jaffa and sail to Haifa, motoring from this point over the mountains of Samaria to Nazareth and the Sea of Galilee at Tiberias. Returning and sailing from Haifa, the next point in Syria will be Beirut. From this place a good road is assured to Damascus, Homs, across the Syrian desert to the ruined city of Palmyra and possibly to Babylon and the Euphrates, making a total drive in Syria of 1,500 miles.

"Carriages now run across the desert, which is smooth and hard, from Bagdad to Aleppo, and on this route there have been established post houses with sleeping and dining accommodations. It will certainly be unique to travel by automobile to these remote places in Western Asia, and the same car which has stood on the banks of the Ganges and in many sacred places in the world is now destined for the Jordan and the Holy Land."



## CLEVELAND MAKERS LOOKING FORWARD COMPLACENTLY

CLEVELAND, Jan. 6.—Cleveland manufacturers and dealers are looking forward to the year with a great deal more complacency than was the case a month or six weeks ago. The financial condition is showing daily improvement, and real money is rapidly displacing the clearing house checks. Manufacturers in all lines who have laid off men are calling them back to work, and one of the best indications of renewed prosperity is the fact



SALES MANAGER R. F. YORK AT WHEEL OF 1908 STEARNS.

that collections are improving from all quarters. This general improvement in business conditions leads the automobile people to believe that while the business for the next month or so may be a little below the average there will be a splendid spring business. The local dealers are congratulating themselves that they decided to hold the local show in February instead of following

the example of the national shows. There is every indication that the actual business at the Cleveland show, which has always been large, will be greater than ever before because of the delay.

One of the best indications of the feeling of optimism is shown in the case of the F. B. Stearns Company, which throughout the financial stringency kept steadily at work on a large addition to its factory. This addition is now completed, and adds greatly to the company's capacity. R. F. York, of the Stearns Company, is now in California, and he reports that the company will get a very nice business from the coast this year. The Stearns factory is running practically a full day force on cars for immediate delivery.

The Peerless Motor Car Company has increased its working force within the past week or so and it now has about three-fourths of full force on full time. It reports that it has on hand more specified orders up to date than the same time a year ago. Business is reported remarkably good in view of general conditions. The Peerless branch at Boston has sold more cars to date than were sold up to March 1 last year.

A. R. Davis, of the Garford Motor Car Company, reports that business is most satisfactory. Two large limousines were sold last week to prominent Clevelanders, and agents are sending in an increased number of orders.

The Winton Motor Carriage Company is working a good-sized force for this time of year and is shipping many cars. All of the branch houses are reporting brighter prospects.

The White Company has practically a full force and is shipping about as usual. Walter C. White, vice-president of the White Company, who has just returned from London and Paris shows, says that foreign trade in Whites will be heavier than ever.

The Baker Motor Vehicle Company is working on large outputs of electrics for 1908.

## THE AUTOMOBILE IS IN THE NATURE OF AN EVOLUTION

"THE automobile is bound to become one of the most stable in the United States," says B. A. Becker, of the Elmore Manufacturing Company, "for those concerns which have an output that is progressive and meets public demand.

"The automobile is in the nature of an evolution, and no evolution can be stopped; in fact, you can no more get along without the automobile to-day than you could without the horse. It annihilates distance better than any locomotive that has ever been built. It brings people out into the open air and invigorates the human system in a better manner than by any other means now in vogue. It combines three very essential points: the most comfortable means of travel, the betterment of health, and the supremest enjoyment of outdoor living.

"Compared with other years we have shipped more of this season's machines up to date than ever before in the history

of our plant. In fact, if we should not make more 1908 cars than we did 1907 cars, we have already shipped almost exactly one-quarter, or 25 per cent., of our output.

"From the present indications, it would appear that 1908 would be one of the best years that we have seen in the automobile business. Present conditions have not affected us up to date, and we consider that it is only a question of a short time when conditions will be normal.

"There is too much pessimism, we believe, in the business world to-day, and it disagrees with our ideas of things, as shown by the fact that we have more men on our pay roll at this time than we had at the same time last year. Our output, as in previous years, has all been contracted with a considerable extent of very desirable territory still open, which we would like to enter, and which will compel us to increase our output."

## AUTOS HAVE BECOME A NECESSITY, NOT ENTIRELY A PLEASURE

"IT is really amusing when I hear these pessimistic rumors regarding the lessening of automobile sales," said Benjamin Briscoe, Chairman of the Committee of Management of the American Motor Car Manufacturers' Association. "I presume these rumors are started by some irresponsible salesman because a few orders for automobiles have been canceled. Because the water is being squeezed out of many worthless stocks and some institutions have been tottering, the reports have been flying broadcast that the demand for automobiles had been met.

"Any sane and broad-minded individual who has studied the situation knows that automobiles will always be sold. They have become a necessity, not entirely a pleasure. It has reached a stage when the public cannot do without them. Especially is this true in the commercial line. Motor trucks and delivery wagons cannot be turned out fast enough to meet the demand. If there is any salesman who feels he has sold all he can, the sooner he gets into some other business so much the better, considering the demand, especially for town cars, is very good."

## DETROIT FEBRUARY SHOW TO BE A NOTABLE AFFAIR

**D**ETROIT, Jan. 6.—From the automobile show of a half dozen years ago to the one of the present day is not a long hark in point of years, but it reveals some startling developments in cars. Possibly nowhere else in the country has this evolution been more forcibly emphasized than in Detroit, which was the first city in the country to have a local automobile show. It was a primitive affair, according to present standards, but six years has worked wonders, and at the time it attracted widespread attention. It is worthy of note that since its inception the pioneer show has been held under the name of the Tri-State Automobile and Sportsmen's Show, the seventh of which is underlined for February 10-15 at Light Guard Armory.

The original display contained a half dozen models of steam cars, nearly all of which are now unknown, and a single gasoline

car, made in Detroit. For the February show, Manager E. E. McMasters announces there will be twenty-five agencies and factories taking space, approximately fifty different makes of cars being exhibited. Applications were far in excess of this number, but it was found necessary to limit the exhibitors through lack of sufficient room to care for all.

As in the past, the gallery will be given over entirely to accessories. The drill hall in the basement will be devoted to a display of motorcycles, which promises to be most comprehensive.

When the Detroit Automobile Dealers' Association launched its recent show at Riverview Park it was predicted that would put an end to the old one. Quite the contrary, the interest displayed in the Tri-State show is greater than ever, indicating that it will equal if not eclipse all predecessors.

## CLEVELAND'S FEBRUARY SHOW LARGER THAN EVER BEFORE

**C**LEVELAND, Jan. 6.—Specification blanks for the Cleveland show, to be held February 17 to 24, were sent out last week by Manager George Collister. The plans provide for a larger exhibit than heretofore, as the large banquet hall at the north end of Central Armory, heretofore never used for show purposes, has been secured and will give 5,000 more feet of floor space. This will be used largely for motorcycles, bicycles and accessories.

The balconies of the big hall will be used exclusively for accessories, while the main floor and wings will be used for complete automobiles. Only the limitation of space will prevent all the cars represented in Cleveland from being displayed, for with daily improvement in the outlook for business every dealer is anxious to get into the show. The show promises to eclipse last year's successful exhibition by fully fifty per cent.

## POUGHKEEPSIE OFFERS GLAD HAND TO FRENCH FIRM

**P**OUGHKEEPSIE, N. Y., Jan. 6.—It is hoped that the De Dion Bouton Company, of Suresnes, France, will be induced to locate its factory in Poughkeepsie. A representative of the French firm is investigating positions on the Hudson, and has already considered the claims of Albany and Newburgh, but it is believed that Poughkeepsie, with its railroad connections open to all parts and a waterway to the ocean, will be able to carry the day. The Chamber of Commerce has invited the representative to visit the town within a few days to look over the situation and review the advantages of the location. The impression is that the new firm does not desire any bonus, but it must have accommodations for its machinists and workmen, who will probably number about three thousand.

The De Dion Bouton Company, one of the oldest and largest in France, had a certain business connection with the United States in the early days of automobiling, supplying motors and parts to several firms now regarded as being at the head of the American industry. Of late years the business done here has been practically nil, the few imports being parts or an occasional commercial vehicle. The French works, on the banks of the Seine outside Paris, are devoted to the production of touring cars, stationary and automobile engines, and commercial vehicles, this latter class being now particularly important. Three thousand workpeople are employed, the annual pay roll being one million dollars. It is supposed that the American factory will be occupied largely with the production of commercial vehicles.

## A. C. OF SPRINGFIELD HEARS ABOUT IGNITION.

**S**PRINGFIELD, MASS., Jan. 6.—J. O. Heinze, of the Heinze Electric Company, Lowell, one of the foremost electrical experts in the country, gave a very instructive technical talk before the Automobile Club of Springfield, January 2, on "Magnetos and Coils." Before engaging in business for himself, Mr. Heinze was assistant to Professor Elihu Thompson of the General Electric Company. At the St. Louis Exposition he received highest awards for the construction of the most powerful induction coil.

The subject taken up by Mr. Heinze was confined to the relative merits of the magneto and spark coils as applied to automobiles. The speaker was emphatic in his statement that a magneto produced a greater efficiency in the gasoline engine than the spark coil, and that the auto can go farther on a gallon of gasoline when the gases are ignited by the spark of a magneto than by the spark of a coil. Instruments designed by Mr. Heinze were shown which disproved the commonly accepted theory that by advancing the spark early ignition is secured. The instrument showed that the spark at all times takes place at the highest point of compression.

## MARYLAND MAY REBUILD OLD TURNPIKE.

**C**UMBERLAND, MD., Jan. 6.—Activity in the development of highways is clearly manifested in Maryland by the strong support which is being given the proposal for a State road or one main artery controlled exclusively by the State. The matter has been talked of for some time, and has been introduced to the Legislature, but was received at such a late stage of the session that its consideration was impossible. When the Legislature again meets this month the subject will be brought up, when it is hoped that the bill will pass into law. The State road, which when rebuilt would reach in Allegheny county from Flintstone to Grantsville, would be a great boon to tourists going over the old National Pike and the Baltimore Turnpike.

At a recent meeting under the auspices of the road directors of the county, in Cumberland, a resolution was adopted that a bill be framed and presented to the Allegheny county delegation for passage at the coming Legislature calling for a bond issue of \$125,000 for permanent road improvement, an equal amount to be secured from the State under the provision of the Shoemaker fund.



### OPTION GIVEN ON POPE-TOLEDO PLANT.

TOLEDO, O., Jan. 6.—It is reported that at the meeting of the creditors of the Pope Motor Car Company and members of the Toledo Chamber of Commerce, held here last Friday, and which was presided over by the receivers, George A. Yule and A. L. Pope, that an option on the entire Pope-Toledo plant has been given to Joseph M. Schwab. Nothing definite regarding the terms of the agreement has been made public, but it is understood that the consideration is \$800,000, of which Mr. Schwab will pay \$650,000, Toledo interests raising the balance.



**KEEPING**

To all Ye faithful TELLERS of tangible TALES  
be it known that these **BE TIGHT TIMES**  
Ye jiggers of **JUNK AND** partners of

**PARTS these be TIGHT TIMES**

Ye are **BROKE**, YE are **Broke**  
COMETH YE CAUSE THE CRITICISM with an Club.  
A **RECKLESS** that PRUDENCE YE  
GLUM and EERY to ENRAGE YE  
COMETH YE JAILING / KEEPER WITH a JAWLIN  
**JAB** YE Slicing YE Ur Shoe Kib.

COMETH THE CUSTODIAN, CUSTODIAN, COMETH  
WITH YE CASH—**NOT**.  
YE are **BROKE** and THINE BE **TIGHT TIMES**.

**BUT COME YE IN US AT YE NEW YEAR WHILE YE**  
GIMMICK CHAIRY is a HANGOVER from CHRISTMAS.  
FOR THE **TWO** LASH WOODER HATH TURNED  
HE UPON AIN, AS A **SALUTE** RUMBLE SANGIT and a GIMMICK.

COMETH THE **CRACKER** WITH the CRACKING CRACKS  
and HANGOVER with YE **HAPPY**.  
In the **BEE ROOM**.  
WHILE OUR DEVICES  
"SLIP"  
SLIP OVER to YE **HOT BIRD**  
and the **COLD BOTTLE**

It BE **TIGHT TIMES** COME!!



Ye **GEARLESS TRANSMISSION CO.**  
At YE **HAG STATION** **ROCKETS**,  
on YE **four TRACK ROAD**.

GEARLESS TRANSMISSION COMPANY'S NEW YEAR'S GREETING.

### KNOX TO BUILD NEW FIRE TRUCK.

SPRINGFIELD, MASS., Jan. 6.—The City of Chicopee has just ordered the Knox Automobile Company to construct a new automobile combination fire truck for the city's fire department. The new auto truck will be the first of its kind ever built by an automobile manufacturer in the country, and is to cost \$5,000. The specifications call for a combination chemical, hose and ladder truck, equipped with a 1908 model, four-cylinder, 40-horsepower, three-speed, air-cooled gasoline engine. Its maximum speed will be twenty miles an hour and will be so built as to ascend grades at an average of ten miles an hour. The new auto truck's fire-fighting apparatus is to consist of two 25-gallon Halloway chemical engines, with 300 feet of hose and two sizes of nozzles. The whole outfit will weigh 7,500 pounds.

### A QUAKER GIRL WHO KNOWS HER CAR.

When John Megraw, one of Philadelphia's prominent real estate men and capitalists, bought his daughter a Wayne roadster he little dreamed that he was performing a stunt that would develop his daughter into a veritable mechanic. But such was the case, and now, whenever any repair is necessary about the house, the Wayne enthusiast is first consulted before a mechanic is engaged to make the repairs.

So much does Miss Megraw think of her car, and so enthusiastic is she over its possession, that she jealously refuses to allow anybody to touch the auto insofar as the operating mechanism and its upkeep are concerned. If the gasoline tank is empty it is Miss Megraw who carries the can and fills



MISS MEGRAW IN HER WAYNE.

the tank with the gas supply. If the oil pump is dry, it is Miss Megraw who raises the hood and fills the oil case with the lubricant. If the vicious nail or tack plays havoc with a tire, or if a plug ceases to spark, or if anything occurs that requires any attention, it is not a chauffeur or mechanic who attends to it, but Miss Megraw herself.

"I just love to putter around the working parts of my Wayne," laughed Miss Megraw as she closed down the hood after filling the crankcase with oil. "While I have never really had any trouble with my car, I tinker around a good deal just to satisfy my curiosity. I have driven all over Philadelphia during the past season, and now I am planning for some real tours next year. I want to take some trips into other sections of the country, and it was because of my desire to do such stunts that I have fitted myself to handle my Wayne both in driving it and in keeping it in running order."



### HOW THE POPE-HARTFORD BROUGHT THE DELAYED STEEL.

A few weeks ago the Pope Manufacturing Company were at a loss to know what had become of a carload of steel which had been shipped from Elyria, O., to the factory at Hartford, and as the company was sorely in need of some of the cargo it traced the car to Albany, where the car had been sidetracked. E. J. Wall, traffic manager for the company, and driver Jim Young, started in a Pope-Hartford for Albany, found the car, and loaded all the raw steel they could on it, about a ton altogether, making the total trip of over 260 miles without a mishap, within twenty hours from the time of starting.

## BRIEF ITEMS OF NEWS AND TRADE MISCELLANY

Continental tires, according to figures submitted by the makers, were more numerous than any others on the cars exhibited at the recent Importers' Salon, in Madison Square Garden.

The Cameron Car Company, of Brockton, Mass., has purchased the entire plant of the Beverly Mfg. Co., Beverly, Mass., including buildings and machinery. This plant gives the Cameron Car Company an addition of 60,000 square feet of floor space.

Still another addition is made to the ranks of the American Motor Car Manufacturers' Association by the election of the Tinscher Motor Car Company, of South Bend, Ind., which make the highest priced car of American manufacture. Their models range from \$5,500 to \$9,000. This gives 52 members to the A. M. C. M. A.

There are four Model X-I-V and two Model K Wintons in Santiago de Chile, and, according to J. S. Gilmor, they are giving "the best of satisfaction, and are all in perfect running condition. This is especially gratifying," he adds, "as the roads are abominable, the grades being rocky and steep. Their owners are enthusiastic."

Diamond wrapped tread tires, in both the quick detachable and regular clincher types, made conspicuously excellent records in the Quaker City Motor Club's endurance run January 1 and 2. Of the 49 sets of tires in use, 24 1-2 were Diamond, and their record, even under the trying road conditions, was an extremely clean one. There were 5 1-2 sets of Diamond tires on the seven cars finishing in the lead.

Never having had any springs break on his car in 30,000 miles' travel, during all of which time, however, the car was provided with Truffault-Hartford shock absorbers, Frederick Sadler, of Bloomfield, N. J., questioned their value, and removed them. In the three weeks following, two springs were broken, which quickly convinced him, and the shock absorbers have been replaced.

As an indication of the manner in which American exports of automobiles have grown during the past few years, the advance reports of the Department of Commerce and Labor for the month of November, 1907, show that for the 11 months ending with November in the years 1905, 1906 and 1907, the totals were as follows: \$2,499,010, \$4,167,032 and \$5,455,540, these figures including the value of both parts and complete cars.

As the first step in the carrying out of a new policy, the Studebaker Automobile Company has just opened a branch in Boston, and will follow it by opening branch houses in all the larger cities of the country. Aside from its other manifest advantages, the branch house brings the customer into closer touch with the manufacturer than is otherwise possible, and is an assurance that the purchaser's interests will be looked after, not merely when he first becomes the owner of his car, but as long as he possesses it.

Officials of the York Motor Car Company, of York, Pa., were well represented in the recent endurance run of the Quaker

City Motor Club of Philadelphia. Aside from the four cars entered and which secured second honors in two classes, Sales Manager H. R. Averill was an observer in the new Philadelphia-built Parkin car; Treasurer R. L. Stevenson acted in the same capacity in a Columbia, and General Manager James A. Kline alternated at the wheel of the 4-40 Pullman entry with Bob Morton.

A patent has been granted the Empire Automobile Tire Company, of Trenton, N. J., on a new electric wire for automobile service. The Empire secondary wire is covered with a rubber stock designed to resist high voltage, the stock being covered with braid and over the braid being placed an oilproof rubber stock. Two braided jackets are placed on the outside. A primary wire made by the Empire company is also insulated with oilproof rubber and finished with two braided jackets.

"It may be well, perhaps, here to state that along the line of progressive improvements we reserve the right to make changes in the construction of Lozier cars at any time, and in such a manner, as, in our opinion, will result in their betterment, it having always been a part of the Lozier policy to discard whatever we feel we have improved upon, and to put into immediate practice any device we have newly perfected, rather than hold it over for embodiment in a later model." The foregoing extract from the Lozier catalogue in explanation of this firm's policy speaks for itself.

Northwest Canada as a market for American automobiles is looming large, according to J. F. McLain, western sales representative of the Franklin Company, Syracuse, N. Y. Mr. McLain states that contracts for the coming season are twice as large as those for the year just past in the territories centering in Calgary and Victoria. In spite of the duty of 35 per cent., the prospects for business are said to be much better than in the Seattle and Portland districts of the United States. A number of ranch owners in the Calgary-Edmonton district are said to be owners of six-cylinder Franklins.

### NEW AGENCIES ESTABLISHED.

The Logan Construction Company has just placed its "dealership" for Cuyahoga County with the Southern Motor Truck Company, of Cleveland, O. The latter company has offices in the Citizens' Building, and a large garage at 6410-6414 Detroit avenue, and will handle the full line of Logan cars.

The Lozier cars will in future be handled by the Co-operative Motor Car Company, of Buffalo, N. Y., in that city. This firm is also the agent for the Stevens-Duryea and the Corbin lines. The Newburg Automobile Company has taken the Lozier agency in Newburg, N. Y.

Under the supervision of Lucius S. Tyler, of the Boston office, and the local management of Melvin E. Dixon, the Maxwell company has just established a new sales agency at 84 Mechanic street, Worcester, Mass. The large salesroom

has been attractively fitted up, and an entire line of the new models is on exhibition.

### PERSONAL TRADE MENTION.

The death is announced at Amesbury, Mass., of William E. Biddle, president and treasurer of the Biddle & Smart Company, aluminum body builders.

Lee Counselman has accepted the position of sales manager with the E. R. Thomas Detroit Company. He was for seven years with the National Cash Register Company as publicity manager.

R. D. Babson has just accepted a position with the automobile department of the Whitlock Coil Pipe Company, Hartford, Conn., entering upon his new duties on the first of the year.

E. L. DeCamp, formerly connected with the New York office of the Packard Motor Car Company, has been appointed representative of Continental tire interests on the Pacific coast, with headquarters at San Francisco.

Since the first of the new year, B. C. Swinehart, vice-president of the Swinehart Clincher Tire & Rubber Company, Akron, O., has made his headquarters at the Chicago office, 1231 Michigan avenue, where he will continue to look after the western trade in the interests of his firm.

Fearing that he would never hear the end of the leap year joke if he postponed his nuptials after the first of the year, J. G. Sterling, chief engineer of the F. B. Stearns Company, Cleveland, O., who had originally planned to get married next spring, accordingly honored the final day of the old year by having the ceremony performed.

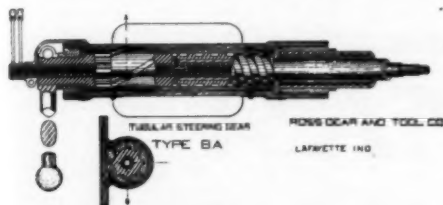
W. W. Burke, formerly manager of the New York branch of the Electric Vehicle Company, has been appointed manager of the New York branch of the Mora Motor Car Company, and will open a salesroom at the southeast corner of Broadway and Fifty-second street as soon as the premises can be made ready.

Charles H. Rockwell, who was, until recently, advertising manager for the National Cash Register Company, has been appointed assistant sales manager of the H. H. Franklin Manufacturing Company, with headquarters at Syracuse. Mr. Rockwell has had considerable experience in the automobile business, having been advertising manager with Autocar Company, and prior to that assistant sales manager of the Haynes Automobile Company, Kokomo, Ind. He will be associated with F. R. Bump, who has charge of the Franklin sales organization. H. G. Kilbourne and J. E. Sangster have been appointed manager and assistant manager, respectively, of the Franklin Automobile Company in Boston, assuming charge on the first of the year. Mr. Kilbourne is a mechanical engineer, and has had a long and varied experience as a salesman, having been associated part of the time with Mr. Sangster, who was his assistant. C. E. Wheeler, formerly in charge of the Boston, remains with the company in another capacity.



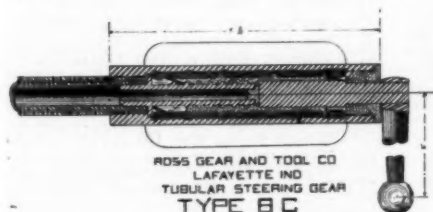
## INFORMATION FOR AUTO USERS

**Ross Steering Gears.**—One of the commonest defects of the average steering gear is the fact that it wears in the straight ahead position to such an extent that when adjustments are made to compensate for this it binds at the end positions. The Ross Gear & Tool Company, Lafayette, Ind., has made a special study of this matter and as a result has brought out a new type of steering gear. It is known as the Model B.A., and a part sectional view of its essentials is shown by the accompanying illustration, Fig. 1. This steering gear is of the tubular type and has been designed



ROSS GEAR ESSENTIALS, TYPE BA.

with such a liberal amount of contact surface that the wear is not only reduced to a minimum, but is so distributed that taking up for play in the straight ahead position does not cause binding when the wheel is turned to either extreme. It is constructed to meet the demand of both touring car and truck service, in which an absolute back-lock is required. As shown by the drawing, the steering arm is given a sidewise motion. It can be put on the squared end of the shaft shown, where controls are desired through the column, or it can be made all in one piece with the shaft, which in that instance would be solid, and the controls would be put on the outside. The internal controls are op-



SECTIONAL VIEW OF TYPE BC.

erated by the usual small hand levers on a sector over the wheel, but which does not rotate with it. For light cars the same makers specialize their type B.C., a sectional view of which is shown by Fig. 2, and they also make other types, such as spiral and disc steering gears, beside a line of universal joints and bevel gears, the latter being planed to makers' specifications.

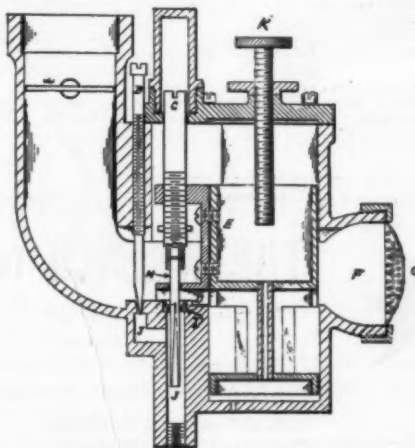
**A Handy Gasoline Gauge.**—Some means of readily ascertaining the amount of gasoline in the tank of a car without the aid of a dirty stick stuck in the filler opening, or a lighted match held near it, has long been desired by autoists generally. To supply this demand, the Edmund E. Hans Company, Minneapolis, Minn., has brought out the Hans gasoline gauge, which is a simple and compact instrument adapted to be placed on the dash of a car, and showing the depth in inches and fractions of the gasoline in the tank, with which it is

connected. As its name indicates, it resembles a steam gauge, the pointer, instead of recording pressure, giving the depth of the liquid in the tank. The instrument consists of a float chamber of rectangular brass tubing, of the same depth as the tank. In this tube is a copper float, while surmounting the tube is the dial, as shown by the accompanying illustration. A silk cable attached to the float passes over a drum geared to the spindle, on which the indicating needle is mounted. When installing it on a car, the instrument is placed so that the bottom of the float chamber is half an inch lower than that of the gasoline tank, connection being made from the bottom of the float chamber of the instrument to the feed line from the tank to the carburetor, by means of an ordinary brass "T." It is equally adaptable to pressure systems, as well as to many other uses. Gasoline has no effect on the special braided silk cable used, and the instrument is so simple that the makers guarantee it unconditionally for one year. They have recently opened an eastern branch office at 25 West Forty-second street, New York City, which is in charge of Howard Greene.



HANS GASOLINE GAUGE.

**Great Scott Carburetor.**—The distinctive feature of the carburetor produced by the Scott & Sons Company, Medford, Mass., is the use of two separate needles, one for low speeds and the other for high and intermediate speeds. They are represented in the illustration by *B* and *H*. The high-speed needle is made of steel, tapered and hardened, and passes through the steel bushing *I* into the gasoline passage *J*, the bushing being cupped for the purpose of retaining a priming charge to start the motor. *C* is the high-speed adjustment, *K* the air adjustment, *A* the throttle, and *L* the float adjustment. At low speeds the



SECTION OF GREAT SCOTT CARBURETOR.

passage *D* supplies all the air that is required by the motor without lifting the air valve *E*. At intermediate and high speeds this passage is not sufficient; consequently the air valve *E* is lifted by the vacuum created by the motor until sufficient air is obtained. The high-speed needle *H* be-

ing tapered and attached to the air valve *E*, this latter moves up and down with it; and as the taper of the needle is proportioned to harmonize with the area created by the lifting of the air valve, an increased volume of air is always supplied with an increased amount of gasoline. It is claimed that the Great Scott carburetor gives a perfect mixture at all speeds, that it gives more power and speed, and is economical of gasoline.

**Tools for Automobilist and Repair Man.**—Some of the most attractive lines in the wide range of tools for automobilists manufactured by the Mound Tool & Scraper Company, St. Louis, Mo., are now put up in special strongly constructed polished wood cases. Among them is a case of 20 tools, gotten up for use



MOUND SET OF 20 TOOLS.

in auto repair work, comprising various chisels, scraping tools, rivet punches, nail set and drift. Another useful line is a case of six scraping tools of assorted sizes from 6 to 10 inches, the



MOUND SET OF SCRAPING TOOLS.

scrapers being made of best tool steel, carefully forged, tempered and hollow ground. A series of carbon scrapers has been designed for removing soot from the top of a piston without taking off



MOUND CARBON SCRAPERS.

the cylinder head. They are of 1-4 inch crucible steel, hand forged, and polished finish. Among the other articles are noticed cotter pin extractors, offset screwdrivers, improved all-metal screwdrivers, chisels, and three-quarter scrapers, all of which have been specially designed and manufactured with a view to meeting the particular requirements of the automobilist, as it is a matter of common knowledge that standard tools frequently fall far short of being what is needed to accomplish the many small repairs about an automobile.

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